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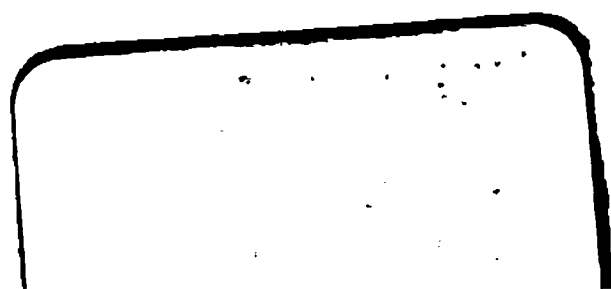
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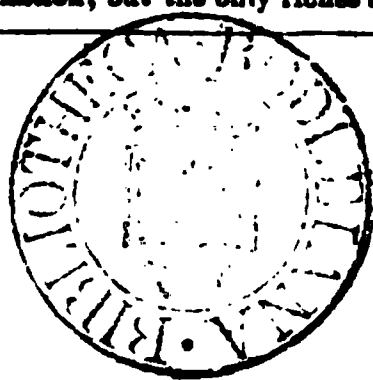
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THE
BRITISH
FARMER'S MAGAZINE.

NEW SERIES.

Agriculture not only gives riches to a nation, but the only riches she can call her own.—DR. JOHNSON.



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THE BRITISH
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PLATE I.

HONEST TOM; A PRIZE SHIRE STALLION.

THE PROPERTY OF MR. WILLIAM WELCHER, OF MOUSE HALL, WEST TOFTS, BRANDON, NORFOLK.

Honest Tom, a bay horse, bred by Mr. Welcher, in 1865, is by Tibbett's Thumper, out of Beauty by Hammond's Emperor, a well known prize horse, by Duck's Matchless. Beauty herself at the last Watton and Wayland show won the silver cup as the best cart mare on the ground.

Tibbett's Thumper, a frequent prize taker in his day at Huntingdon and Peterborough, was by Eagle Thumper, a son of Steward's Major, and so back to Purrant's Honest Tom and Goodman's Honest Tom.

The following prizes have been awarded to Honest Tom:

ROYAL PRIZES.

First prize at Royal Society Meeting at Bury St. Edmund's, July, 1867, against 13 competitors	£	s.	d.
First prize at Royal Society Meeting at Leicester, July, 1868, against 9 competitors	20	0	0
First prize at Royal Society Meeting at Manchester, July, 1869, against 11 competitors	25	0	0
First prize at Royal Society Meeting at Oxford, July, 1870, against 20 competitors.	25	0	0

COUNTRY SHOWS.

First prize at Cambridgeshire and Isle of Ely, at Wisbech, Sept. 28, 1867	6	0	0
And Special Prize, Silver Cup, value	20	0	0
First prize at Huntingdonshire Meeting, at Huntingdon, March 27, 1868	15	0	0
First prize and Silver Medal at the Norfolk Meeting, at Downham, June 18, 1868	10	10	0
First prize at Cambridgeshire and Isle of Ely, at Newmarket, July 1, 1868	10	0	0
And Special Prize, Silver Cup, value	20	0	0

First prize at South Lincolnshire Meeting at Grantham, July 24, 1868.	£15	0	0
First prize at the Town of Long Sutton, Lincolnshire, October 28, 1868	3	3	0
First prize at Lincolnshire Meeting, at Lincoln, July, 1869	20	0	0
Second prize at Yorkshire Meeting, at Beverley, July, 1869	7	0	0
First prize at Birmingham Horse Show, August, 1869	30	0	0
Second prize at Norfolk Meeting, at Harleston, June, 1870	7	0	0
First prize at Cambridgeshire Meeting, at Royston, July, 1870	10	0	0
First prize at Lincolnshire Meeting, at Sleaford, July, 1870	20	0	0
First prize at Watton and Wayland Meeting, at Watton, Silver Cup, September, 1870, value	10	10	0
	£299	3	0

In his report on the Royal Meeting at Manchester, Mr. Wells, M.P., the senior steward says: "Honest Tom was conspicuously the best animal, and deserved his honours even more than he did at Leicester. He has greatly improved since then, and grown into a fine specimen of a Shire cart-horse stallion;" and Mr. Manfred Biddell, one of the judges at Oxford, thinks him "a remarkably good animal." We once, however, on the confines of Mr. Biddell's own county of Suffolk, saw Honest Tom sent away in an all-England class with nothing more than a mere commendation, though this could never have happened had there not been a majority of Suffolk judges on the bench.

PLATE II.

A "ROYAL" COTSWOLD.

THE PROPERTY OF MR. THOMAS BROWN, OF MARHAM, NORFOLK.

Lord Lyon 2nd, a shearling Cotswold ram, is by Lord Lyon, bought of Mr. Robert Garne in 1866 for 120 gs., dam by Sir James, bred by Mr. Jas. Walker, and a winner of 1st prize at Canterbury R.A.S. 1860, grandam from Mr. Robert Lane's flock.

As a lamb Lord Lyon 2nd, in 1869, with his partner, won 1st prize at the Attleboro' meeting of the Norfolk Agricultural Association.

In 1870, at the Harleston meeting of the same Society he won 1st prize in his class, and the extra prize as best Longwoolled sheep in the yard. At the Oxford meeting of the Royal Agricultural Society of England he won the first prize.

Mr. Brown has favoured us with the following neatly-told history of his Cotswold flock :

Having from the time of my first turning my attention to business been a lover of the sheep I, about 1850, began to cherish the idea of breeding a few Longwoolled rams for my own use. I was then keeping a flock of Down ewes bred by Mr. H. E. Blyth. In 1853 a neighbour, who was giving up his Longwoolled flock, kindly allowed me to select therefrom ; and, accordingly, I started with 88 ewes. A very few years' experience proved to me the impolicy of keeping two flocks. I hesitated which to dispose of. My most intimate friends advised me to sell the Downs and to become a ram-breeder, urging amongst other reasons the breaking-up and decline of two or three old-established flocks of Longwoolled sheep in the county. Their counsel coinciding with my inclination, in 1856 I sold my Down ewes to my father-in-law, largely increased my Longwoolled flock, and became an exhibitor at the meetings of the Norfolk Agricultural Association. For several years my sheep were unnoticed by the judges ; I therefore determined to try a Cotswold Ram ; and in 1860 I bought the shearling ram to which was awarded (I being one of the judges) the first prize at the Canterbury meeting of the Royal Agricultural Society. With his produce I found the road to success ; for in 1862, at Dereham, I gained the three prizes for shearling rams and the first for shearling ewes ; and in 1863, at Great Yarmouth, *all* the prizes save one (a third) ; while since that time I have obtained the great majority of the prizes for Longwoolled sheep offered by the Norfolk Society. I was soon urged, notably by the late Mr. A. Hamond, to become an exhibitor at the Royal shows ; but my constant attendance at its meetings had plainly shown me that my Leicester-Lincoln-Cotswold sheep, however successful in Norfolk,

would stand no chance with the pure breeds. I desired to maintain my position in Norfolk, and to exhibit at the Royal ; therefore, I determined to have a pure breed of Longwoolled sheep. My choice laid between Lincolns and Cotswolds : the Lincolns were reputed to cut the most wool, whereas the Cotswolds were superior in form and came earlier to maturity. I decided for the Cotswold ; having come to the conclusion that with care and attention a Cotswold flock on my upland farm would cut as much wool and of as good quality as a Lincoln. Seven years experience has strengthened that opinion.

In 1863 Mr. Robert Lane, of the Cotage Farm, reduced his flock : one of the oldest, most noted, and successful on the Cotswold Hills. I became a purchaser, giving ten guineas each for some of his ewes ; and in about five years time I find I bought 480 Cotswold ewes ; a few from Mr. Robert Garne and others, but the greater part from Mr. Robert Lane.

I began to exhibit at the Royal meetings in 1867, and the following is a list of prizes gained thereat :

1867, Bury St. Edmunds.—First and second for shearling rams, first and second for old rams, and first for shearling ewes.

1868, Leicester.—First for shearling rams, third for old rams, and second for shearling ewes.

1869, Manchester.—Third for shearling rams, first and second for old rams.

1870, Oxford.—First and third for shearling rams.

I have not shown shearling ewes since 1868 and probably shall not again show any. During the last decade I have used rams from Messrs. Robert Garne, Robert Lane, William Hewer, and William Lane. Twice I have given 120 guineas, twice 101 guineas for a sheep.

I began ram-breeding, as I have stated, in 1853 with 88 ewes. As my flock increased so did my customers, till I now annually let and sell, for breeding purposes, about 350 rams and ram lambs.

In our own report of the Royal Oxford meeting we spoke to "the Marham shearling as a very handsome sample of his kind, with a good fleece, a true frame, and a capital countenance ;" while one of the judges writes of him "as a particularly good sheep." The flock was in immense force here, as Mr. Brown took not only the first and third prizes, but the reserve number and another high commendation ; his old tutor Mr. Robert Lane separating the Norfolk-bred sheep for second place.

.....
of Royal Cathedral
.....
.....

THE SMITHFIELD CLUB SHOW IN THE AGRICULTURAL HALL.

THE OPENING MORNING.

Immediately on the conclusion of last meeting we called attention to "the unsatisfactory, not to say disgraceful condition" into which the conduct of the Smithfield Club Show was gradually drifting. We pointed out the unwholesome fact that exhibitors, their relatives, agents, or herdsmen, got into the Hall before they had any right to be there; that the reporter of one daily Paper appeared to have the run of the place long previous to his fellows, and that he gratefully availed himself of the opportunity to write up the wares of some of the Agricultural Hall people. It further appeared that persons were in the habit of passing themselves off as implement makers' assistants, when they were nothing of the kind; while so far as the Press went we stood very much alone in advancing these charges. It was "only fault-finding for the sake of fault-finding," and so on.

Nevertheless the Council of the Club has thought fit to attempt a very radical reform. Some of our daily contemporaries have, as usual, supplied some of the earliest intelligence, evidently gathered up about the gateways, and, as it would seem, under the greatest possible difficulties. *The Telegraph* calls the Club "A Conservative Institution"; and *The Times* tells us how "So determined have been the Club authorities to prevent any information being obtained that it was stated detectives in plain clothes had been employed to prevent the intrusion of any stranger whatever into the area where the live stock is located until the judges made their awards on Monday. Even exhibitors are not allowed beyond the threshold after depositing their stock, and the implement exhibitors are barricaded in the galleries, and are compelled to find ingress and egress by a special door in the Liverpool Road." Nothing of course could come better than this, and so we proceed to read of such "prodigious" pieces of news as that the Queen and the Prince of Wales have made entries—that a number of the animals exhibited at Birmingham will be brought on to Islington—that the arrangements are under the direction of Mr. Brandreth Gibbs, and that the show, as usual, is the largest and finest that ever was known!

With the exception of the pigs, where the competition in most of the classes is small, and amongst which there has been some unusual mortality, the Show certainly looks to be larger than of late, although the quality is as indisputably but moderate. There is not an animal, at least in the cattle classes, of any extraordinary merit, and many of the best beasts at Birmingham are again the best at Islington. Not that the law as laid down last week is followed so continually here, as, indeed, there are some rather emphatic corrections to the first reading. For instance, Mr. Smith's steer, the first of his class, the best of all the Devons, and in the opinion of Mr. George Turner the best beast in Bingley Hall, takes no prize whatever in the Agricultural Hall. We stated in our report from Birmingham that this was a big, meaty, well-covered steer, with capital flesh, but by no means so smart nor so bloodlike as a North Devon should be; and again, "if ever it comes to a Champion from this lot of Devons in London we certainly do not expect to see Mr. Smith's steer again at their head." Mr. Senior's beautiful heifer, on the contrary, was again the first of her class, with Mr. Burton and her Majesty reversing their several places, as they previously had done

at breeding shows. The youngest class of steers of any sort never makes much mark, as the picked beasts are commonly kept for another year, nor is there any exception to this in the present show; but the two classes of older Devon oxen are both commendable, as better than they were at Birmingham, the winners in the Midlands never getting so forward here, and Mr. McNiven showing some fresh beasts, and another cow. Before the final award, the two best appeared to be Mr. Taylor's ox and Mr. Senior's heifer.

The Herefords were altogether in more force than at Birmingham, and the class of oxen contained some very good beasts, set off by a few but moderate; while it is noticeable that beyond Mr. Price's steer, which was third again in his class, none of the prize Hereford oxen or steers of last week were successful here. The first, second, and third heifers on the contrary were precisely in the same places here; and two of the Hereford cows were again winners, although Mr. Hill now separated them on the list. Our Birmingham report will of course speak to all this business.

The Shorthorns were a very tolerable collection, and nothing more. Amongst the juveniles, Lord Aylesford's steer was once more first, but the competition was small and bad; Mr. Searson's white reaching deservedly to a better place than at Birmingham, even in better company. With the crack ox well out of the way, amongst the extra stock, Mr. Joseph Stratton's was now deservedly the best of his class, with the Scotch ox again second, and Mr. Stratton's "big brother" third. Amongst the Shorthorn heifers, however, the Burderop Herd entered one of the plums of the Exhibition in Peeress, previously well-known at our great breeding shows, and but for having been thrown back from foot-and-mouth disease, that would surely have been the best of all the cows or heifers. Curiously enough, Mr. Reid's capital heifer, the best of her class, and that, *but* for the Shorthorn judge, would have been the best of all the females at Birmingham, was now only third, so that this fact alone gives Peeress a character; while the two Scotch heifers reversed their places, Mr. Hunter still being second. There was also the same sort of alteration amongst the cows, but we prefer the previous decision, although no doubt it would be always, a near thing between them. Mr. Torr's 200 ga. cow, Guiding Light, took no prize.

Mr. Montefiore showed a very good ox, but the Sussex scarcely ran up to their form of late, and Mr. Lee Steers has lost his lead. The two best Highlanders in the Midlands were now without places, and the class of oxen was altogether superior; while Mr. Harris' capital specimen, one of the best seen for some time, was of course still the best of the Scotch Polls; but Mr. M'Combie's high bred heifer, certainly rather flat-sided, lost her place, and of course with it the chances for further honours; the best ox and the best cow at Birmingham being both here amongst the extra stock; but the Devon cow, almost as glaring a mistake or piece of prejudice as the best Devon steer, had now of course no chance. The crosses included some capital beasts, of which the best ox showed a deal better out than in; and the award in his favour was not much fancied.

Lord Berners is still invincible for Leicesters; there were but few Cotswolds, with Mr. Hall still showing the best; and an admirable class of Lincolns that was generally commended. Lord Wal-

ingham maintains his supremacy with the Southdowns, although the judges took a deal of time to settle the light weights; perhaps the best test of a real Southdown at a fat show. The Shropshires were not very numerous, and our prize-list must tell so far as may be of the merits of the other sheep.

Messrs. Duckering's best pig at Birmingham was now no higher than the reserve number, Lord Aylesford winning the Cup, with what the judges considered a wonderfully good one of what is called "the Packington improved sort." The best of the pens, Mr. Benjafield's Dorsets, were also highly spoken of; but in one class there was no competition from the pens being imperfect, in another the White Windsors, also from a death, were but badly matched. Mr. Duckering's pen of whites were still very hard to meet or beat; and Mr. John Coote's pen would have won the cup as the best with the other Dorsets out of the way.

Of the two best animals of all we wrote thus in our report of the Birmingham Show:—"The three prize Devon heifers were all good, the first and second especially so, although at breeding shows Daisy has beaten the Royal Adelaide before now. Still the pick of the three was unquestionably Perfection, who, but for her falling away a little in her quarters, went far to realize her title. She has lots of style, a sweet head, a long, straight, well-covered frame, with a good touch, and heavy accordingly is the wagering that she will be first, and first both in Birmingham and in London. But still she was not the best of all the Devons, nor even of the Devon cows and heifers, and perhaps Lady 2nd might fairly compete with her. Again, "At the Oakham show in 1869, Mr. Pulver, a yeoman of Broughton, near Kettering, showed a Shorthorn steer, by Biddenham, a bull from Mr. Charles Howard's Spencer tribe, but bred by Sir W. de Brooke, that took a second prize in an All-England class to Mr. Roland Wood's Little Wonder, the best beast in the show. Young Biddenham then came on to the Smithfield Club Meeting, where in the certainly 'crack' class he was only highly commended. Lord Aylesford's steer, the best animal of his year, being first, Mr. Wood's Little Wonder second, and a steer of Lord Penrhyn's third. Still one of the judges said, 'if kept on for another year, this very stylish steer will be sure to command a foremost place.' Mr. Pulver thence travelled his beast on to Leeds, where he won in his class, but never was in it when the judges came to find the best animal in the yard. During the past summer and autumn he took invariably first prizes for fat stock at Peterborough, Royston, Hinckley, and Wellingborough; as at Oakham in the early part of last week he was not only the first of his class, but the best beast in the show. He had thus 'run through' many of the animals he met in his own class at Birmingham. It will be so gathered that if there were any great merit in Mr. Pulver's ox, he could have no difficulty in his path so far. And he has indisputably great merit in many ways. He is a smart rich roan in colour; he is a compact square rather than an overwhelming animal; he has fed so well that his flesh does not seem to enumber him as it does many a fat beast, but he has a cheerful look and gay carriage, as it is not until you see him out that he moves after a somewhat awkward ungainly fashion. He has an especially good forchard, is well ribbed up, and straight and square in his outline, but bad in his pnrse, having suffered terribly from castration, and standing rather weak from behind. Of course he was not only at a glance the best of his class, being ordered in very early, but as easily the best of his breed; and although Mr. George Turner held out afterwards, the other judges and the lookers on only smiled, as the pretensions of Mr. Smith's Devon when put in comparison with the Shire Shorthorn made it something like a horse to a hen. How-

ever, Mr. Turner did his duty to his county as he did when it came to the best of all, and, as everybody else had seen long previously, the Shorthorn eventually took every prize there was to be taken.

DURING THE WEEK.

There are this year in the classes proper thirty-three entries of Devons, forty-four entries of Herefords, forty-five entries of Shorthorns, twenty-four entries of Sussex, twenty-seven entries of Scotch cattle, and twenty-one entries of Cross-bred stock. The other breeds, such as the Eastern County Polls, the Longhorns, the Irish and Welsh beasts offer, each and all, so poor a front that they are either individually or collectively entitled to little consideration on the appointments of the judges, who are selected in this wise:—To act over the Devons, Herefords, Sussex, red Polls, and Longhorns, the Council constitute a Bench to include one judge known to be a Devon fancier, another a white-faced man, and the third altogether of Sussex proclivities, and this arrangement no doubt is right and fair enough. Whereas to estimate the merits of the Shorthorns, the Scotch Polls, the Highlanders, the Irish, the Welsh, and the Crosses the three judges are elected on the understanding that they must be all Shorthorn breeders. But why should this be so? And the answer no doubt would be that it always has been so, although that of course is no answer, or at any rate no reason whatever. At Islington the numerical strength of the Shorthorns only exceeds that of another breed by a single entry, whereas in point of actual merit or quality, it is far below some of the other kinds of cattle. Nevertheless three Shorthorn worthies still take their places, while the claims of two or three of the very best kinds of fat beasts ever seen at a Christmas show are coolly ignored. These are of course the black Polls, the Highlanders, and the Crosses, as it must be further borne in mind that the most successful cross for the butcher and the best paying one for the feeder is that with a herd of Aberdeenshires. The entries of Shorthorns reached in all to forty-five, and of Scotch cattle and Crosses to forty-eight. It thus becomes sufficiently manifest that if the Sussex, for instance, have now a title to a judge of their own a great injustice is done to such exhibitors as pay us the compliment and add so much "mark" to the meeting by sending their stock from over the Border. Let the Shorthorns still have a majority if it so please the Council, but let us by another year have some one at least whose taste has been educated amongst the Scots to act with them. We say thus much because, either at Birmingham or Islington, as it struck us, the Scotch beasts had scarcely due weight accorded to their merits. Enthusiastic Mr. Turner, or more careful Mr. Pope, would be either very ready champions of the Devons, as men like Mr. Aylmer or Mr. Topham would know how to make the most of a Shorthorn, whenever they happened to get a good one before them. Then the Herefords can always reckon on an able advocate, and Mr. Cane is by no manner of means a gentleman inclined to give way should he find one of his smart Sussex steers favour the hand and fill the eye. When, however, Mr. Heath Harris' beautiful black polled ox was led out to do battle against the world who was there to take up his cause? The three Shorthorn men would naturally rely on what they found in the extra stock when there was nothing extraordinary in their rank and file. Mr. Pope had two or three really superior Devons at his command, and Mr. Cane with nothing particular from his own county would naturally soon come to this way of thinking. Last year, no doubt, the best beast either in the Midlands or the Metropolis was a Scotch Cross, but he was put out for a Shorthorn; and

this season it is still by no means so clear but that the best ox was the Scotch Poll. Although not the heaviest, and not so over-fed as to be unsightly, this beast has plenty of meat and weight, with famous quality, and a certain high-bred style that was really quite charming to a connoisseur. Of course he has been winning again and again all over his own country; and when, what with his gay carriage, they came once more to put him into comparison with the now somewhat "seedy" steer from the Shires it seemed to be anything but a certainty that the Birmingham best would be confirmed at Islington. But bless you! the Shorthorn judges were looking at the Shorthorns, the Devon judges were looking at the Devons, and so the Scotchman had to be content with beating his own breed. To still further prove the necessity for placing a North Briton on the Bench let us look at the decision over the polled cows, where Mr. McCombie's sweet heifer was put second to a plainer, coarser, and even less weighty animal! At Birmingham the award was the other way, and it is next to impossible to understand how its reversal could have been arrived at.

At the dinner of the Hurstpierpoint Show on Thursday last, Mr. Cane said "he had been a breeder of Sussex stock for thirty years, and he still remained firm to the opinion he had formed a long time ago, that the Sussex was superior in many respects to most other breeds. He had been a judge in London this year, and what he had seen there tended to confirm his previous opinion that stock might be classed—Devons first, Sussex second, Herefords third, and Shorthorns fourth. He believed that each of the first three breeds were constantly improving, but Shorthorns were decidedly going back. The way they got to the top of the tree was this, noblemen and gentlemen—who were perhaps better judges of good meat than poor simple people—at one time fancied Shorthorns; but as an humble individual he knew what good things were, and could tell them that Shorthorns as compared with Devons and Sussex, showed as much inferiority as a Kent sheep would against a beautiful Southdown. He very much regretted that the £100 prize at Smithfield had been awarded to a Shorthorn. The judges, who had just awarded two £40 cups, met to consider whether the great prize should be given to a Shorthorn or a Devon. Three of the judges were strongly in favour of the Shorthorn, but he was equally strong in favour of the Devon. The three stuck to it that the Shorthorn should have the prize, and unfortunately one of his (Mr. Cane's) party gave way, and they knew the result. He could only say that he was disgusted, because the Devon was the most handsome beast he had ever seen, worth 1s. a stone more than some of the others. There was also some splendid Sussex stock at Smithfield, and it was his firm opinion that if the gentlemen of the county of Sussex, and many others, would continue to breed Sussex animals as they did now, and to improve them, they would knock all Shorthorns out of the field." Precisely so; and this speech, as we take it, proves our case. A Shorthorn was pronounced to be the best beast in the Show, because there were *three* Shorthorn judges; the Devons stood next, because there were *two* Devon judges, or, at least, one Devon man and his first cousin from Sussex. The one Hereford judge, no doubt, was the first to give way in favour of the Shorthorn, and, as we must maintain, about the very best beast of the year was drafted out, simply because there was no Scotch breeder in office. Under any circumstances, the retention of three Shorthorn judges is, on the face of it, a monstrous injustice to the other established breeds.

But of all the eccentricities in the way of judging stock there has certainly of late been nothing to compare with the awards over the Devons at Birmingham. It is only

charitable to assume that his two colleagues permitted Mr. George Turner to have it very much his own way with this breed, as of course the outside world would hold the Devon man mainly responsible for the Devon awards. When they had the four winners of the classes out to select the best of all the Devons, and when they did select Mr. Smith's steer our comment to the steward who gave us the result was "why, it was a hundred to one on the heifer." As our readers are aware we said as much in our report; nevertheless, *The Times* called him "a superb steer," said that the best Devon cow was "a model," but could not find a word of special compliment for Mr. Senior's heifer. And here in London the superb steer and the model cow took no prizes whatever; while Perfection, who as we had said went far to realise her title, now closed up in place of the steer, with Mr. Pulver's ox as the best of all. There was a vast deal of idle talk, moreover, about the whole class of Devon oxen at Birmingham, which was totally eclipsed by the entry in London. In fact, the first prizes of the oxen and steer classes are all fresh animals, and the best of them a wonderfully good beast in a wonderfully good class. This is Mr. William Taylor's four years and a half old ox, which eventually proved to be the second best beast in the yard. Although fed in Sussex, he is a pure North Devon, having been bred by Mr. Stranger in the Molton country; and he is indeed all quality, famously ribbed, long and deep on a short leg, thoroughly furnished, and set off by a good but not delicate red coat. Mr. McNiven's second here, another fresh beast, was very plain by comparison, and Mr. Aldworth's third took no prize whatever at Birmingham. And after that the deluge! or in other words unnoticed beyond the general compliment of the class, came "the superb steer" that some people went into ecstasies about at Birmingham. Of the Devon heifers we have already written fully, and the Devon Cows, now headed by Mr. Ford, with one of Mr. Mogridge's blood, were still of not much mark; Mr. M'Niven, putting another in place of the Birmingham cow, here in Extra Stock, and the two others taking the same comparative rank of each other as in the previous week. The two-year old Devon steers made up the best class of young beasts in the show, where the Stowey herd managed to make some mark; but luck has lately been against Mr. Farthing, for, as we reported from Birmingham, he had just lost a fat cow, and since then his ox. But the best cow or heifer, Perfection, is of his blood—by young Sir Peregrine out of a cow in the late Mr. Gibbs' herd at Tatham, and so all over "one of those Somerset Devons."

Although the Herefords this season made no stand for the highest honours there is no doubt but that the best filled class in the Hall was that of the Hereford oxen or steers over three years and three months—a really grand entry of great, weighty, noble beasts, just set off by one or two not *quite* equal to his company, or the class must have received a still higher commendation. The best, again like the best Devon fed in Sussex, was bred by Mr. Myddleton in Shropshire, as a credit to the county; for he is a magnificent specimen of the breed, deep, massive, and bloodlike, but positively disfigured by the frightful condition into which his feet have been suffered to grow. It looked, in fact, like cruelty to order him out, as it is a case which might repay going into, say by Lord Powis, or Miss Burdett Coutts. To show the general strength of this class, Mr. Philip Turner's smart steer, the best of the old class at Birmingham, took nothing more than a high commendation, being fairly beaten on his merits; while Mr. Bettridge's third prize in the Midlands was now unnoticed. On the opening day in Bingley Hall the third prize was placarded over the head of Her Majesty's parti-coloured beast, but this was an error of the stewards and not of

the judges. Neither of the classes of younger Hereford steers at Islington would rank with the oxen, particularly if we took, as we assume we must, Lord Darnley's beast as the best of them, for this is a cowy-headed, delicate looking animal, awkward out, and by no means so true, when you come to examine him in his stall; but the award in his favour seemed to be a mistake. The Hereford cows and heifers were mainly the Birmingham entries over again, and of these we have said sufficient already.

With one very noticeable exception all the top-prize Shorthorns at Birmingham were also at the head of their classes in London, and a very moderate lot, as we have already intimated, they were. To certain transpositions which the Smithfield prize-list shows, we have already spoken, and as it is but tedious work re-writing our impressions we may take the gist of our previous reports. With Mr. Pulver's ox now well out of the way, Mr. Joseph Stratton's "clever, deep, and square steer, unquestionably the next best," now succeeded to the first place; Mr. Richard Stratton's third-prize here, and a winner at Chippenham, having been entered but not sent to Birmingham; while Messrs. Martin's high-quality ox still kept his place as next to the Wiltshire white. Amongst the middle-aged steers Mr. Searson's very good white, first at Oakham and second at Birmingham was once more first in a very so-so company; Lord Aylesford's short podgy steer, with his unpardonable forehead, winning again amongst the youngsters, as he could, should, or would not have done, with anything like creditable competition. The London judges reversed the Birmingham, awards over the first and second Shorthorn cows, and perhaps it was always "a toss-up for choice" between the two; but we cannot understand how Mr. Hunter's terribly plain heifer now came to be preferred to the other Scotch lassie, "so straight, deep, and handsome," which, had the Shorthorn man only held to his own line as he should have done, would, with the Devon heifer put early out of it, have been the best of all the cows and heifers at Birmingham. Still they were both fairly beaten by Mr. Richard Stratton's Peeress, first at Taunton and third prize at the Royal Oxford last summer, and a really grand lengthy heifer, but always exhibited in very high condition. As a consequence she has not bred, although thought to be in calf until lately, while she has also been down with the foot-and-mouth disease, so that she was not so ripe nor so blooming as she might have been, or she must have run the Devon very closely as the best of her sex. Peeress, however, is not destined for the shambles, as she goes back further west into Cornwall, where Sir Frederick Williams has purchased her at butcher's price by way of an experiment. Mr. Senior also keeps on Perfection for another year, not with the hope of breeding from her, but with an eye to another trial for the Champion Plate—a very hopeless business as it looks. We write without the records before us, but did a cow or heifer ever take the crowning honours as the best beast of all at Birmingham? If our memory serve us, something from the Towneley stalls did *once* achieve this feat.

Mr. Cane notwithstanding, the Sussex oxen were certainly not so good as we have seen them; but some of the ladies, like Mr. Lee Steere's heifer were as handsome and bloodlike as Devons, although on a larger scale. There were in all three Norfolk and Suffolk red Polls entered, of which was a *roan*, and the sort should merge again one into the other breeds. There were two Longhorns in two classes, and these again have no longer a right to any rank of their own; there were two Irish, one of which had no merit, and three Welsh beasts, where in one class any prize was also withheld, and as none of these breeds ever do come in any numbers it is a simple absurdity keeping skeleton classes open on their behalf. Let them try conclusions against each other as Other Breeds. The

same course might be at once adopted with the new class of other Scotch-horns, of which there were three entries in one class and none in the other; while two of these were wretched things, and the best of them, so far as anybody could understand, of "no breed in particular." It was, in fact, a farce to put such animals in a line with the capital lot of true West Highlanders, over the dozen of which the judges duly distributed the two premiums and five commendations; but then as they carefully took no notice whatever of Lord Southesk's handsome ox, the second, as he should have been the first at Birmingham, it is doubtful whether they knew even as much of the Highlanders as their fellows at Birmingham, and that was no vast deal. To the merits and placing of the black Polled we have already spoken, and still the conclusion we come to is that by another year there must be at least one Scotch judge in office. What particular recommendation can three Shorthorn breeders, or a Devon-Hereford-and-Sussex trio have for such a duty?

Again, the nine prizes for cross or mixed-bred beasts were all won by Scotchmen, as the good class of oxen was thought to be but badly judged. Of course these were all by a Shorthorn bull on to an Aberdeen cow, proverbially the best cross out, but then the people who breed them must necessarily know the most about them, and should, directly or indirectly, have some voice in determining their merits. Messrs. Martin's best cross-bred ox at Birmingham, a beast we never quite fancied, was now only fourth; but there could be no mistake about the placing of Lord Dunmore's capital heifer, which in some years or under some circumstances might have fairly aspired to something more. There were other crosses of the Shorthorn-and-Hereford, the Devon-and-Sussex, the Devon-and-Shorthorn, and the Hereford-and-Poll, but none of these can compare with the long-famous Shorthorn-and-black Poll—a veritable "nick." The Broughton steer was the hero of the extra stock; where a cross-bred heifer beat the best of all the cows at Birmingham, and her Majesty's best cow in extra stock at Birmingham, who here ran a dead heat for second. This plan of changing the judges looks to be a very wholesome proceeding, or the "superb steer" and the "perfect cow" might have taken the same imposing places in London as they did in the Midlands. With a reported outbreak of foot-and-mouth disease in the show on the last day, Mr. Pulver's ox cannot go on to Leeds, and this is to be regretted, as there would have been some chance of the Yorkshiremen closing with him.

At the general meeting of the members of the Smithfield Club, on Tuesday, Mr. Sewell Read said: "He thought it undesirable that a great national Club like this should encourage a weight that was not required. The light weight of a Southdown he could understand; but the light weight of a Cross-bred, if it were of good quality, was something that he could not understand. Even with the Southdowns, when he saw that Lord Walsingham could bring them out at one year almost as heavy as if they were two years old, it seemed to him that the days of light weight for Southdowns were nearly at an end. But with regard to Cross-bred sheep, which he looked on as the sheep for the million, he contended that the bigger and better they were the more advantageous would it be alike for the farmer and the consumer. He hoped then that the prizes for Cross-bred sheep would not be reduced, but rather let them add to the number of prizes for yearling sheep. It was the most important class in the yard; and if it were possible to subdivide it by allowing the Cross-bred Mountain sheep to appear in another class he should not object, but he urged on the Council the desirability of striking out such an unnecessary class as that to which he had called attention." This, however,

is now quite an old story. In the Club report of last year one of the Shortwool judges writes thus: "Of this light weight class, I may say I have often wondered whether it was a necessary one. I think it has never happened that the gold medal or silver cup has been taken by it; and a grand pen of sheep of Sir William Throckmorton's was struck out, because one of the best sheep was 2 lbs. above weight. Are either the exhibitors or the public benefited by this class?" And another of the judges over the same class says that the light weight condition has failed to effect its object; while he adds that some years ago "Mr. Henry Upton carried off the Gold Medal with a pen of light-weight sheep." Nothing of course is easier than to obtain mere size and weight at a sacrifice of breed, and so let cross-bred sheep, honestly entered as such, be made as heavy as the feeder pleases. But for many years past, long before the supremacy of the Merton flock was established, there had been something more than a suspicion that the purity of the Southdown had been tampered with in order to reach great growth. A bit of Hampshire or black-faced Sussex has occasionally been introduced, and the sheep were, in fact, no longer thorough-bred. At this very show the only whole class of sheep which was highly commended was that of the light-weight Southdowns, and deservedly enough too, for there was more bloodlike true character here than in any other section. The pens also took a deal more judging, and Lord Walsingham was at length as nearly as possible beaten; many, indeed, still preferring Sir William Throckmorton's pen. Whereas in the other class of young wethers, without conditions as to weight, the Merton sheep, pronounced to be the best pen in the Show, are actually heavier than the prize Shropshires of precisely the same age! They are grand sheep certainly for the butcher, but if they go on increasing in bulk as of late, it is hard to realize what a Southdown will eventually come to. The Duke of Richmond's old sheep are particularly stylish, as a long way ahead of their small and moderate class; while Lord Walsingham's seven-year-old ewes have worn wonderfully well after so much good service in the flock. Lord Sondes, as he generally does, showed some remarkably neat clever Downs; but Mr. Rigden was not up to his usual form, the Hove pens looking light and leggy, however good in their tops.

The older hands at this business did not quite like it when Lord Chesham beat them all for Shropshires at Manchester, nor will they now take very kindly to the proof, as afforded by the scales. Still, as we said at Birmingham, the Latimer flock is reaching fast to the standard of an "Improved Shropshire," and with fresh sheep and fresh judges his Lordship was first in the three classes, as Mr. Horley must know what a Shropshire should be. Mrs. Beach's sheep, of something the same type, are also very good to show, as they always have been of late; but some of the other exhibitors in these classes have certainly sent up better samples from their flocks. Mr. Morrison's and Messrs. Russell's West Country Downs are more comely to look on than the good old-fashioned sour-headed sort, but some how or other we never now meet with such smart, high-quality Hampshires or Wiltshires as that stalwart steward, who has just passed along-side, was wont to exhibit. There was no class in the show which more honestly won its commendation than the capital entry of Oxfords, where Sir Henry Dashwood for the first time at a great meeting took the top place with the heaviest pen in the class; and really grand commanding sheep they are, of good looks, with famous backs, and perhaps at all points the best lot of fat sheep of this kind ever brought out. But then what are

the points, or who will be kind enough to draw up a scale of points for judging an Oxfordshire Down? There are only two pens of fat ewes exhibited, both very excellent, but as different from each other as it is possible to imagine any sheep to be that are entered as of the same breed. Mr. Treadwell's are big, useful, roughish looking ewes, and Mr. Charles Howard's very neat, full of quality, and with sweet blood-like heads; two of the three, in fact, being at nearly five years old from the Bury Royal prize pen; while Mr. Alfred Rogers secures his now recognised annuity from the same flock. There was a mixed class of Cheviots, Ryelands, and Somersets, where the Cheviots were but poorly represented; while the Duke of Roxburgh's black-faced Highlanders were really good, as their quality of mutton will compare well with the West Highlander's beef, that is amongst the primeest a butcher can buy or sell. As at Birmingham, the crosses did not look to contain anything of remarkable excellence, but nevertheless Mr. John Overman took the Cup for the best of the other breeds or cross-breeds, though the superiority of the short-and-long-wool pen to Sir Henry Dashwood's Oxfords was not so apparent. They were fairly beaten for weight, which Mr. Sewell Read would have us take as the best test of a cross-bred. "The Royalists" laughed outright when they saw the Romney Marsh sheep at Canterbury, but there was really a very creditable entry this year at Islington, and the improvement since they left the Ark seems at length to have been set about in earnest. In the small show of Lincolns the Birmingham award was very properly corrected in favour of Mr. Lister, who beat Mr. Harris alike for weight, style, and quality, Mr. Pears retaining his third place with one of the heaviest pens at their age in the Hall. There were four entries of Cotswolds and four prizes awarded, the most that can be said for them, as if the breeders do not care to make a show they should undoubtedly merge into the other breeds. Indifference should be met with indifference, as retaining classes that do not fill must have a bad effect. Still, it is only fair to say that the new class of three fat ewes was in every direction a failure, for no where did the competition exceed three entries, as more frequently there was but one pen exhibited for the prize. Lord Berners' Leicesters are as usual very carefully fed and very finely bred. It is said that they never sell nor let a ram from Keythorpe, but keep some of their best lambs for wethers, so that a lead in this way must be maintained alike at some cost to the flock and the public; as on such conditions a farmer has of course no chance of engaging in successful rivalry.

A successful breeder and acknowledged judge of pigs has favoured us with some notes, of which we avail ourselves in preference to dwelling on our own experiences of that dreadful black hole, a very concatenation of abominable effluvia. A less interesting show of pigs has not been seen at Smithfield for years; few in number, and nothing great in size or quality. This section of the show seems quite at a standstill, if not actually drifting back. Many old names are missed from the list of exhibitors, and new ones are not forthcoming. There are thirty-seven entries for nine classes, and the best filled class not good enough to merit a second prize, although containing Mr. Baily's first prize Birmingham Berkshires, made up of very good pigs if not quite up to the mark for a fat show. But they certainly should not have been passed over. Capt. Warren's prize pen of whites took our fancy much; but in the succeeding class of the same colour, no prize was awarded, some of the pigs having died in the Hall. In the class of older white pigs Sir A. Rothschild showed a wretched pen, the Duckering's being a long way first; while Capt. Warren's lot were wonderfully fat, but had lost form, or they would have put Mr. Lynn out of it.

Amongst the black pigs the Dorsets had it all to themselves, Mr. Coate and Mr. Benjafield the two firsts, with Mr. Robertson and Mr. McNiven to follow. Some fancied Mr. McNiven's entry for second in each class, but there was really not a £20 cup pen in the yard. In the three remaining classes the Berkshire took all the prizes; Mr. Biggs being first and second, with some excellent pigs, Mr. Samuel Druce and the Marquis of Ailesbury the other firsts, and Mr. King, with a pen of coarse animals, second in his class. The single extra stock pigs aided the show wonderfully, and in a really good competition the Earl of Aylesford took the cup, beating the best pig at Birmingham, for which Messrs. Duckering have at length found a breeder's name in Mr. Cornish. The subjoined suggestions may be worth the attention of the Council. Have only two classes, under and over six months old, in each breed: large whites, small whites, small blacks, and Berkshires. Let the *under six months* be shown in pens of *five* and for *breeding* purposes; over six months, as *fat* stock. Give two £10 cups, one to the best pen for breeding purposes, and one for the best fat pigs, instead of as now, one £20 cup. The object of breeders in showing is to *sell* their stock. They do not care to compete in the fat classes. This is proved by the fact of there being only twenty-five exhibitors for the eighteen prizes in the nine classes for *breeds*. Do not put the pigs in the cellar with such narrow passages between the rows of pens, and do not use so much carbolic acid as to make the place stink worse than any *respectable pig sty*. Give up one side of the main Hall, under the gallery, and let some of the implements go into the cellar; or hold the root show there. Further, why should not the weight of a pig be given as well as that of a sheep or an ox? There could surely be little trouble in arriving at this information with a lot of over-fed or over-dosed animals.

JUDGES.

CATTLE.

DEVONS, HEREFORDS, SUSSEX, NORFOLK AND SUFFOLK
POLLED AND LONGHORN.

Baker, G. W., Orwell Park, Ipswich;
Cane, Edwd., Berwick, Lewes, Sussex;
Pope, T. Horningsham, Warminster, Wilts.

SHORTHORNS, SCOTCH, IRISH, WELSH AND CROSS-BRED;
Aylmer, H., West Dereham Abbey, Stoke Ferry, Norfolk.
Randell, C., Chadbury, Evesham;
Topham, Jas., The Hemplow, Welford, Rugby.

SHEEP.

LEICESTERS, COTSWOLDS, LINCOLNS, KENTISH, CROSS-
BREDS, OXFORDSHIRE, MOUNTAIN, ETC.

Clarke, Charles, Scopwick, Lincoln;
Garne, R., Aldsworth, Northleach;
Wallis, G., Old Shifford, Bampton, Farringdon.

SOUTHDOWNS, HAMPSHIRE, SHROPSHIRE, EYELAND, ETC.
Fookes, H., Whitechurch, Blandford;
Horley, T., The Fosse, Leamington;
Sainsbury, W., Hunts House, West Lavington, Devizes.

PIGS.

Baldwin, Thos., Glasnevin, Dublin;
Little, E., Lanhill, Chippenham;
Sexton, G. M., Wherstead Hall, Ipswich.

CATTLE.

(Silver Medals are given to the breeders of all First
Prize animals.)

DEVONS.

Steers, not exceeding 2 years and 6 months old.
First prize of £20, W. Taylor, Glynley, Sussex—10
cwt, 8 qrs. 25 lbs.

Second of £15, W. Farthing, Stowey Court, Bridg-
water—11 cwt. 3 qrs. 10 lbs.

Third of £10, W. Smith, Hoopern, Exeter—12 cwt.
3 qrs. 25 lbs.

Highly commended.—Her Majesty The Queen, Nor-
folk Farm, Windsor—11 cwt. 1 qr. 7 lbs.

Commended.—E. Trod, Bowhay, Exminster—10 cwt.
2 qrs. 26 lbs.

Steers, not exceeding 3 years and 3 months old.

First prize of £30, C. McNiven, Perrysfield, Surrey—
13 cwt. 2 qrs. 7 lbs.

Second of £20, T. L. Senior, Broughton, Aylesbury—
14 cwt. 3 qrs. 20 lbs.

Third of £10, G. Gibbs, Bishops' Lydeard, Taunton—
15 cwt. 2 qrs. 6 lbs.

Highly commended.—J. Overman, Burnham Market
—16 cwt. 6 lbs.

Steers or Oxen, above 3 years and 3 months old.

First prize of £30, W. Taylor, Glynley, Sussex—16
cwt. 2 qrs. 12 lbs.

Second of £20, C. M'Niven, Perrysfield, Surrey—17
cwt. 1 qr. 8 lbs.

Third of £10, W. Aldworth, Frilford Berks—16 cwt.
2 qrs. 14 lbs.

Highly commended.—Her Majesty the Queen, Norfolk
Farm, Windsor—14 cwt. 1 qr. 8 lbs.

Commended.—J. Coate, Hammoon, Dorset—16 cwt.
2 qrs. 1 lb.

The Class generally commended.

Heifers, not exceeding 4 years old.

First prize of £25, T. Senior, Broughton, Aylesbury—
14 cwt. 3 qrs. 19 lbs.

Second of £15, R. Burton, Broadclyst, Devon—13 cwt.
14 lbs.

Third of £10, Her Majesty the Queen, Norfolk Farm,
Windsor—13 cwt. 1 qr. 9 lbs.

Highly commended.—J. H. Buller, Downes, Crediton
—15 cwt. 14 lbs.

Cows, above 4 years old.

First prize of £25, J. Ford, Rushton, Dorset—13
cwt. 8 qrs. 23 lbs.

Second of £15, W. Aldworth, Frilford, Berks—12 cwt.
2 qrs. 17 lbs.

Third of £10, C. M'Niven, Perrysfield, Surrey—12
cwt. 8 lbs.

Highly commended.—W. Smith, Hoopern, Exeter—
11 cwt.

HEREFORDS.

Steers, not exceeding 2 years and 6 months old.

First prize of £20, W. Groves, Brompton, Shrews-
bury—16 cwt. 3 qrs. 27 lbs.

Second of £15, Her Majesty the Queen, Flemish Farm,
Windsor—15 cwt. 1 qr. 20 lbs.

Third of £10, F. Evans, Bredwardine, Hereford—15
cwt. 5 lbs.

Highly commended.—R. Shirley, Bowcott Munslow—
14 cwt. 1 qr. 6 lbs.

Steers, not exceeding 3 years and 3 months old.

First prize of £30, the Earl of Darnley, Cobham Hall,
Gravesend—14 cwt. 3 qrs. 20 lbs.

Second of £20, Her Majesty the Queen, Flemish Farm,
Windsor—17 cwt. 15 lbs.

Third of £10, J. Price, Pembridge, Leominster—17
cwt. 2 qrs. 13 lbs.

Highly commended.—C. Hall, Croydon—13 cwt. 1 qr.
13 lbs.

Steers or Oxen, above 3 years and 3 months old.

First prize of £30, J. Agate, Warnham, Sussex—19
cwt. 2 qrs. 16 lbs.

Second of £20, J. G. Leigh, Luton, Beds—19 cwt.
22 lbs.

Third of £10, J. Ford, Rushton, Dorset—21 cwt. 2 qrs. 10 lbs.

Highly commended.—P. Turner, Pembridge, Leominster—17 cwt. 1 qr. 7 lbs.; and W. Heath, Ludham Hall, Norwich—18 cwt. 3 qrs. 21 lbs.

The Class generally commended.

Heifers, not exceeding 4 years old.

First prize of £25, Her Majesty the Queen, Flemish Farm, Windsor—14 cwt. 17 lbs.

Second of £15, J. W. James, Moppowder, Dorset—15 cwt. 1 qr.

Third of £10, J. Baldwin, Luddington, Warwick—12 cwt. 3 qrs. 13 lbs.

Highly commended.—W. Heath, Ludham, Norfolk—13 cwt. 3 qrs. 24 lbs.

Cows, above 4 years old.

First prize of £25, T. Instone, Bourton, Shropshire—17 cwt. 1 qr. 16 lbs.

Second of £15, R. Hill, Orleton, Ludlow—15 cwt. 3 qrs. 17 lbs.

Third of £10, H. Ridgley, Steventon, Salop—17 cwt. 1 qr. 17 lbs.

Commended.—Sir J. R. Bailey, Bart., M.P., Glanusk—16 cwt. 3 qrs. 21 lbs.

SHORTHORNS.

Steers, not exceeding 2 years and 6 months old.

First prize of £20, The Earl of Ayleford, Warwick—16 cwt. 2 qrs. 1 lb.

Second of £15, Colonel Loyd Lindsay, M.P., Wantage, Berks—16 cwt. 21 lbs.

Third of £10, R. N. Morley, Leadenham, Lincoln—15 cwt. 25 lb.

Steers, not exceeding 3 years and 3 months old.

First prize of £30, R. Searson, Market Deeping, Lincoln—15 cwt. 2 qrs. 9 lbs.

Second of £20, Sir W. Booth, Bart., St. Neots—18 cwt. 1 qr. 12 lbs.

Third of £10, J. Stratton, Manningford Bruce, Wilts—17 cwt. 1 qr. 7 lbs.

Steers or Oxen, above 3 years and 3 months old.

First prize of £30, J. Stratton, Manningford Bruce, Wilts—17 cwt. 3 qrs. 4 lbs.

Second of £20, J. and W. Martin, Aberdeen—19 cwt. 1 qr. 23 lbs.

Third of £10, R. Stratton, Burderop, Wilts—16 cwt. 3 qrs. 8 lbs.

Heifers, not exceeding 4 years old.

First prize of £25, R. Stratton, Burderop, Wilts—16 cwt. 2 qrs. 15 lbs.

Second of £15, J. Hunter, Dipple, Moray—17 cwt. 2 qrs. 10 lbs.

Third of £10, J. Reid, Graystone, Aberdeenshire—17 cwt. 2 qrs. 16 lbs.

Highly commended.—Sir W. C. Trevelyan, Bart., Wallington, Newcastle—15 cwt. 3 qrs. 16 lbs.

Commended.—The Earl of Radnor, Coleshill, Highworth—15 cwt.; and J. C. Coney, Reigate—18 cwt. 1 qr. 7 lbs.

Cows, above 4 years old.

First prize of £25, The Earl of Feversham, Duncombe Park, York—21 cwt. 27 lbs.

Second of £15, J. A. Mumford, Chilton, Oxford—19 cwt. 6 lbs.

Third of £10, T. Mace, Sherborn, Gloucester—17 cwt. 3 qrs. 22 lbs.

SUSSEX.

Steers or Oxen, not exceeding 3 years old.

First prize of £20, W. Sturt, Fetcham, Surrey—17 cwt. 1 qr. 20 lbs.

Second of £10, J. Neale, Cold Waltham, Sussex—14 cwt. 3 qrs. 1 lb.

Third of £5, J. E. and A. Heasman, Angmering, Sussex—14 cwt. 19 lbs.

Commended.—E. and A. Stanford, Steyning—13 cwt. 3 qrs. 1r 4 lbs.

Steers or oxen, above 3 years old.

First prize of £25, J. M. Montefiore, Crawley, Sussex—16 cwt. 3 qrs. 8 lbs.

Second of £15, J. E. and A. Heasman, Angmering, Sussex—17 cwt. 17 lbs.

Third of £10, L. Steere, M.P., Dorking, Surrey—20 cwt. 2 qrs.

Highly commended.—M. Coote, Climping, Sussex—22 cwt. 3 qrs. 2 lbs.

Heifers, not exceeding 4 years old.

First prize of £20, Lord Leconfield, Petworth, Sussex—13 cwt. 3 qrs. 25 lbs.

Second of £15, L. Steere, M.P., Dorking—16 cwt. 7 lbs.

Highly commended.—J. M. Montefiore, Crawley, Sussex—15 cwt. 3 qrs. 2 lbs.; and J. Russell, Hurstpierrepont, Sussex—16 cwt. 3 qrs. 19 lbs.

The Class generally commended.

Cows, above 4 years old.

First prize of £20, L. Steere, Dorking, Surrey—19 cwt. 2 qrs. 27 lbs.

Second of £15, J. Shoosmith, Lewes, Sussex—15 cwt. 14 lbs.

Commended.—W. Neale, Petworth, Sussex—16 cwt. 25 lbs.

NORFOLK OR SUFFOLK POLLED.

Steers or Oxen, of any age.

First prize of £15, His R. H. The Prince of Wales, Sandringham, Norfolk—17 cwt. 3 qrs. 17 lbs.

Heifers or Cows, of any age.

First prize of £15, W. Slipper, Catfield, Norfolk—14 cwt. 1 qr. 9 lbs.

Second of £10, C. Symonds, Aylmerton, Norfolk—14 cwt. 2 qrs. 2 lbs.

LONGHORNS.

Steers or Oxen, of any age.

The prize of £10, W. T. Cox, Spondon Hall, Derby—16 cwt. 2 qrs. 8 lbs.

Heifers or Cows, of any age.

The prize of £10, W. T. Cox, Spondon Hall, Derby—14 cwt. 3 qrs. 18 lbs.

SCOTCH WEST HIGHLANDERS.

Steers or Oxen, of any age.

First prize of £30, R. Barcham, Thurgarton, Hanworth—19 cwt. 1 qr. 6 lbs.

Second of £15, J. S. Leigh, Luton, Beds—18 cwt. 1 qr. 13 lbs.

Highly commended.—R. Jardine, M.P.—17 cwt. 1 qr. 28 lbs.

Commended.—H.R.H. The Prince of Wales—15 cwt. 8 lbs.; The Duke of Sutherland, K.G.—20 cwt. 10 lbs.; Sir W. C. Trevelyan, Bart.—15 cwt. 3 qrs. 20 lbs.; and W. Symonds, Epping—17 cwt. 3 qrs. 5 lbs.

Heifers or Cows, of any age.

First prize of £15, Sir W. C. Trevelyan, Bart., Wallington, Newcastle—13 cwt. 3 qrs. 26 lbs.

Second of £10, J. Reid, Graystone, Aberdeen—15 cwt. 3 qrs.

OTHER SCOTCH-HORNS.

Steers or Oxen, of any age.

The prize of £10, R. Wortley, Suffield, Norfolk—16 cwt. 3 qrs. 9 lbs.

Heifers or Cows, of any age.

(No entry.)

SCOTCH POLLED.

Steers or Oxen, of any age.

First prize of £30, R. H. Harris, Earnhill, Forres, Moray—20 cwt. 2 qrs. 26 lbs.

Second of £15, W. McCombie, M.P., Tillyfour, Aberdeen—24 cwt. 3 qrs. 28 lbs.

Heifers or Cows, of any age.

First prize of £15, J. Bruce, Burnside, Morayshire—18 cwt. 2 qrs. 15 lbs.

Second of £10, W. M'Combie, M.P., Tillyfour, Aberdeen—19 cwt. 2 qrs. 5 lbs.

IRISH.

Steers or Oxen, of any age.

(No competition).

Heifers or Cows, of any age.

First prize of £10, Lord Berners, Keythorpe Hall, Leicester—18 cwt. 26 lbs.

WELSH.

Steers or Oxen (Runts), of any age.

First prize of £20, Sir C. E. Isham, Bart., Lamport, Northampton—17 cwt. 2 qrs. 26 lbs.

Second of £10, R. D. Jenkins, Pantirion, Cardigan—18 cwt. 27 lbs.

Heifers or Cows, of any age.

Prize withheld.

CROSS OR MIXED BRED.

Steers, not exceeding 8 years old.

First prize of £25, W. Drysdale, Kilrie, Kinghorne, Fifeshire—17 cwt. 2 qrs. 12 lbs.

Second of £15, R. Moir (trustees of) Meikle Tarty of Ellon, Aberdeen—17 cwt. 3 qrs. 14 lbs.

Third of £10, R. Bruce, Newton of Struthers, Morayshire—20 cwt. 1 qr. 17 lbs.

Highly commended.—J. and W. Martin, Aberdeen—18 cwt. 20 lbs.

Commended.—H. S. Stratford, Thorpe, Market Harborough, Leicestershire—15 cwt. 1 qr. 17 lbs.; T. L. Senior, Broughton—15 cwt. 3 qrs. 20 lbs.

Steers or Oxen, above 8 years old.

First prize of £25, W. Brown, Linkwood, Elgin—21 cwt. 8 lbs.

Second of £15, J. Stephens, Couglass, Aberdeen—25 cwt.

Third of £10, W. Scott, Glendronnach, Aberdeen—20 cwt. 1 qr. 19 lbs.

Very highly commended.—J. and W. Martin, Aberdeen—21 cwt. 12 lbs.

Highly commended.—J. Overman, Burnham-Sutton—21 cwt. 3 qrs. 20 lbs.; Earl of Dunmore, Stirling—20 cwt. 1 qr. 18 lbs.; and H. Bettridge, Wantage—17 cwt. 2 qrs. 9 lbs.

Heifers, not exceeding 4 years old.

First prize of £20, Earl of Dunmore, Dunmore, Stirlingshire—20 cwt. 3 qrs. 12 lbs.

Second of £10, A. Cowie, Crombley Bank, Aberdeen—18 cwt.

Highly commended.—Sir W. C. Trevelyan, Bart., Wallington, Northampton—16 cwt.

S H E E P.

LEICESTERS.

Fat Wethers, 1 year old (under 28 months).

First prize of £20, Lord Berners, Keythorpe Hall, Leicester—6 cwt. 3 qrs. 21 lbs.

Second of £15, W. Brown, Holme-on-Spalding, York—6 cwt. 1 qr. 21 lbs.

Third of £5, J. Newman, Harrowden, Bedford—6 cwt. 3 qrs. 23 lbs.

Commended.—Colonel Lowther, M.P., Barleythorpe—5 cwt. 8 qrs. 35 lbs.

Fat Wethers, 1 year old (under 28 months).

Each Sheep not to exceed 220 lbs. live weight.

First prize of £20, Lord Berners, Keythorpe Hall, Leicester—5 cwt. 2 qrs. 11 lbs.

Second of £15, W. Brown, Holme-on-Spalding, York—5 cwt. 2 qrs. 11 lbs.

Third of £5, F. J. S. Foljambe, M.P., Worksop, Nottingham—5 cwt. 2 qrs. 15 lbs.

Fat Ewes, above 3 years old (that must have had a Lamb).

The prize of £10, Colonel Lowther, M.P.—5 cwt. 3 qrs. 7 lbs.

COTSWOLDS.

Fat Wethers, 1 year old (under 28 months).

First prize of £20, R. Hall, Great Barford, Oxford—8 cwt. 25 lbs.

Second of £15, J. Wheeler, Long Compton, Warwick—7 cwt. 1 qr. 3 lbs.

Third of £5, J. Baldwin, Luddington, Warwick—7 cwt. 6 lbs.

Fat Ewes, above 3 years old (that must have had a Lamb).

The prize of £10, J. Baldwin, Luddington, Warwick—6 cwt. 1 qr. 26 lbs.

LINCOLNS.

Fat Wethers, 1 year old (under 28 months).

First prize of £20, C. Lister, Coleby Lodge, Lincoln—7 cwt. 2 qrs. 11 lbs.

Second of £15, J. B. Swallow, Barton-on-Humber—7 cwt. 2 qrs. 25 lbs.

Third of £5, J. Pears, Mere Branston, Lincoln—8 cwt. 9 lbs.

Highly commended.—T. W. D. Harris, Wootton, Northampton—6 cwt. 3 qrs. 12 lbs.

Commended.—J. Byron, Sleaford—7 cwt. 3 qrs. 16 lbs.; and T. Gunnell, Milton, Cambridge—7 cwt. 3 qrs. 21 lbs.

Fat Ewes, above 3 years old (that must have had a Lamb).

The prize of £10, F. Sardeson, Cranwell, Sleaford—9 cwt. 2 qrs. 5 lbs.

Highly commended.—J. Pears, Mere Branston, Lincoln—8 cwt. 1 qr. 26 lbs.

KENTISH OR ROMNEY MARSH.

Fat Wethers, 1 year old (under 28 months).

First prize of £15, J. Newport, Ashford, Kent—6 cwt. 3 qrs. 4 lbs.

Second of £10, F. Murton, Smeeth, Kent—6 cwt. 3 qrs. 4 lbs.

CROSS-BRED LONG-WOOLLED.

Fat Wethers, 1 year old (under 28 months).

First prize of £15, T. W. D. Harris, Wootton, Northampton—7 cwt. 3 qrs. 6 lbs.

Second of £10, Sir W. DeCapell Brooke, Bart., Kettering, Northampton—6 cwt. 3 qrs. 16 lbs.

Highly Commended.—J. Newman, Harrowden, Bedford—6 cwt. 3 qrs. 22 lbs.

SOUTHDOWNS.

Fat Wethers, 1 year old (under 28 months).

First prize of £20, Lord Walsingham, Thetford—6 cwt. 2 qrs.

Second of £10, F. J. S. Foljambe, M.P., Worksop—6 cwt. 5 lbs.

Third of £5, Duke of Richmond, Goodwood—5 cwt. 2 qrs. 21 lbs.

Highly commended.—H. Humphrey, Ashington, Sussex—6 cwt. 1 qr. 24 lbs.

Fat Wethers, 1 year old (under 28 months).

Each Sheep not to exceed 200 lbs. live weight.

First prize of £15, Lord Walsingham, Merton Hall, Thetford—5 cwt. 23 lbs.

Second of £10, Sir W. Throckmorton, Bart., Buckland, Berks—5 cwt. 12 lbs.

Third of £5, Lord Sondes, Elmham Hall, Thetford—5 cwt. 9 lbs.

Highly commended.—The Duke of Richmond, Goodwood, Sussex—5 cwt. 12 lbs.; and the class generally.

Fat Wethers, 2 years old (above 23 and under 35 months).

First prize of £15, Duke of Richmond, Goodwood—6 cwt. 2 qrs. 9 lbs.

Second of £10, J. Overman, Burnham Sutton—6 cwt. 3 qrs. 24 lbs.

Commended.—W. Taylor, Glynley—6 cwt. 8 lbs.

Fat Ewes, 8 years old (that must have had a Lamb).

The prize of £10, Lord Walsingham, Merton Hall, Thetford—5 cwt. 2 qrs. 2 lbs.

Highly commended.—Lord Dacre, Kimpton, Herts—6 cwt. 22 lbs.

HAMPSHIRE OR WILTSHIRE-DOWNS.

Fat Wethers, 1 year old (under 23 months).

First prize of £20, A. Morrison, Tisbury, Wilts—7 cwt. 1 qr. 2 lbs.

Second of £15, J. Russell, Sutton-at-Hone, Kent—7 cwt. 17 lbs.

Third of £5, R. and J. Russell, Horton Kirby, Kent—7 cwt. 2 qrs. 8 lbs.

Highly commended.—J. and M. Arnold, Westmeon, Hants—6 cwt. 3 qrs. 26 lbs.

Commended.—W. G. Duncan, Bradwell, Bucks—7 cwt. 1 qr. 10 lbs.

Fat Ewes, above 3 years old (that must have had a Lamb)

The prize of £10, J. D. Allen, Tisbury, Wilts—6 cwt. 4 lbs.

SHROPSHIRE.

Fat Wethers, 1 year old (under 23 months).

First prize of £20, Lord Chesham, Latimer, Bucks—6 cwt. 14 lbs.

Second of £10, T. Nock, Sutton Maddock—6 cwt. 1 qr. 11 lbs.

Third of £5, Lord Wenlock, Eacrick Park, York—6 cwt. 1 qr. 20 lbs.

Highly commended.—S. C. Pilgrim, Burbage, Hinckley—7 cwt. 10 lbs.

Fat Wethers, 2 years old (above 23 and under 35 months),

First prize of £15, Lord Chesham, Latimer, Bucks—7 cwt. 2 qrs. 22 lbs.

Second of £5, Sarah Beach, Brewood, Penkridge, Stafford—8 cwt. 26 lbs.

Highly commended.—J. Coxon, Lichfield, Stafford—7 cwt. 2 qrs. 22 lbs.

Fat Ewes above three years old (that must have had a Lamb).

The prize of £10, Lord Chesham, Latimer, Bucks—7 cwt. 10 lbs.

Very highly commended.—T. Nock, Sutton Maddock Shiffnal—6 cwt. 3 qrs. 20 lbs.

OXFORDSHIRES.

Fat Wethers, 1 year old (under 23 months).

First prize of £20, Sir H. W. Dashwood, Bart., Kertington Park, Oxford—7 cwt. 3 qrs. 27 lbs.

Second of £15, the Duke of Marlborough, Blenheim, Woodstock—7 cwt. 1 qr. 18 lbs.

Third, of £5, N. Stilgoe, Adderbury, Oxford—7 cwt. 2 qrs. 24 lbs.

Highly commended.—Lieut.-Col. Loyd Lindsay, V.C., M.P., Wantage, Berks—7 cwt. 2 qrs.

The class generally commended.

Fat Wethers, 2 years old (above 23 and under 35 months).

The prize of £10, A. Rogers, Bromham Bedford—8 cwt. 7 lb.

Fat Ewes, above 3 years old (that must have had a Lamb).

The prize of £10, J. Treadwell, Upper Winchendon, Bucks—8 cwt. 1 qr. 26 lb.

Highly commended.—C. Howard, Biddenham, Bedford—7 cwt. 3 qrs. 15 lbs.

RYELANDS, CHEVIOTS, AND DORSETS.

Fat Wethers.

First prize of £15, H. Farthing, Nether Stowey, Somerset—6 cwt. 3 qrs. 14 lbs.

Second of £10, J. B. Downing, Holme Lacey, Hereford—6 cwt. 2 qrs. 5 lbs.

Third of £5, Sir W. Gordon Cumming, Bart., Altyre Forres, Moray—6 cwt. 1 qr. 14 lbs.

Highly commended.—R. Jardine, M.P., Castlemilk, Lockerbie, Dumfries—4 cwt. 3 qrs. 17 lbs.

MOUNTAIN-BREEDS.

Fat Wethers, of any White-faced Mountain breed, of any age.

First prize of £15, J. Tapp, Twitchen, Devon—5 cwt. 1 qr. 10 lbs.

Second of £10, W. Smith, Hoopern, Exeter—4 cwt. 2 qrs. 14 lbs.

Highly commended.—C. McNiven, Perrysfield, Surrey—4 cwt. 8 lbs.

Fat Wethers, of any Black-faced or Speckled-faced Mountain breed, of any age.

First prize of £15, The Duke of Roxburghe, Floors Castle, Kelso—5 cwt. 3 qrs. 23 lbs.

Second of £10, The Earl of Strathmore, Glamis Castle, Forfar, N.B.—5 cwt. 3 qrs. 20 lbs.

Highly commended.—J. McGill, Rotchell, Dumfries—5 cwt. 1 qr. 1 lb.

CROSS-BRED LONG AND SHORT-WOOLLED.

Fat Wethers, 1 year old (under 23 months).

First prize of £20, J. Overman, Burnham Sutton, Suffolk—6 cwt. 3 qrs. 23 lbs.

Second of £15, H. Purser, Willington Manor, Bedford—7 cwt. 2 qrs. 26 lbs.

Third of £5, J. Newman, Harrowden, Bedford—7 cwt. 3 qrs. 8 lbs.

Highly commended.—T. Rush, Babraham, Cambridge—7 cwt. 3 qrs. 17 lbs.

Commended.—Z. W. Stigloe, Adderbury, Oxford—7 cwt. 1 qr. 25 lbs.; and J. Mason, Eynaham, Witney, Oxfordshire—7 cwt. 2 qrs. 18 lbs.

Fat Wethers, 1 year old (under 23 months).

Each Sheep not to exceed 220 lbs. live weight.

First prize of £10, J. Overman, Burnham Sutton, Suffolk—5 cwt. 2 qrs. 14 lbs.

Second of £5.—No other entry.

PIGS.

WHITE.

Not exceeding 9 months old.

First prize of £10, Capt. R. P. Warren, Basingstoke.

Second of £5, Her Majesty the Queen, Windsor.

Above 9 and not exceeding 12 months old.

Insufficient merit.

Above 12 and not exceeding 18 months old.

First prize of £10, R. E. Duckering and Son, Northorpe, Kirton Lindsey.

Second of £5, J. Lynn, Stroxtan, Grantham.

Highly commended.—Captain R. P. Warren.

BLACK;

Not exceeding 9 months old.

First prize of £10, J. Roberson, Bayfordbury, Herts.

Second of £5, J. Coate, Hammoon, Blandford, Dorset.

Above 9 and not exceeding 12 months old.

First prize of £10, A. Benjafield, Stalbridge, Blandford.

Second of £5, C. McNiven, Perrysfield, Surrey.

Above 12 and not exceeding 18 months old.

First prize of £10, J. Coate, Hammoon, Blandford.

Second of £5, Captain R. P. Warren, Basingstoke.

Commended.—C. McNiven, Perrysfield, Surrey.

OTHER BREEDS.

Not exceeding 9 months old.

First prize of £10, J. Biggs, Cublington, Leighton Buzzard.

Second of £5, Withheld.

Above 9 and not exceeding 12 months old.

First prize of £10, S. Druce, Eynsham, Oxford.

Second of £5, J. Biggs, Cublington, Leighton Buzzard.

Above 12 and not exceeding 18 months old.

First prize of £10, The Marquis of Ailesbury, Savernake Forest, Wilts.

Second of £5, J. P. King, North Stoke, Berks.

EXTRA STOCK.

Oxen or Steer, £10 and silver medal.—Thomas Pulver, of Broughton, Kettering—20 cwt. 3 qrs. 14 lbs.

Very highly Commended.—William Heath, of Ludham Hall, Norwich—17 cwt. 2 qrs. 20 lbs.

Highly Commended.—Robert Jardine, M.P., Castle-milk, Lockerbie, N.B.—17 cwt. 2 qrs. 20 lbs.

Commended.—Robert Barcham, Thurgarton, Ilanworth, Norfolk—17 cwt. 3 qrs. 26 lbs.

Heifers or Cows, £10 and silver medal.—E. Walter, Tangley Farm, Wothingham—17 cwt. 2 qrs.

Highly Commended.—C. McNeven, of Perry'sfield Oxsted, Godstone—14 cwt. 17 lb.; The Queen—16 cwt. 8 qrs. 6 lbs.

Commended.—Joseph Perkins, of Laughton, Rugby—16 cwt. 2 qrs. 5 lbs.

Long-wool wether Sheep, silver cup value £5.—John Byron, Kirkby Green, Sleaford—8 cwt. 2 qrs. 20 lb.

Short-wool wether Sheep, silver cup, value £5.—Lord Walsingham—2 cwt. 2 lbs.

Highly Commended.—Duke of Richmond—1 cwt. 3 qrs. 9 lbs.; F. J. S. Foljambe—1 cwt. 3 qrs. 9 lbs.

Commended.—R. and J. Russell, of Horton, Kirby, Dartford, Kent—2 cwt. 3 qrs. 16 lbs.; John Russell, Sutton-at-Home, Dartford—2 cwt. 1 qr. 9 lbs.; H. H. Penfold, Selsey, Chichester—1 cwt. 3 qrs. 6 lbs.; A. Morrison, Fonthill House, Tisbury, Wilts—2 cwt. 2 qrs. 6 lbs.; Sir W. Throckmorton—1 cwt. 3 qrs. 10 lbs.; Lord Braybrooke—1 cwt. 3 qrs. 16 lbs.

Shropshire, Oxfordshire cross-bred or any other breed of wether Sheep, silver cup, value £5.—Joseph Newman, of Harrowden, Bedford—2 cwt. 2 qrs. 16 lbs.

Single Pig.—Silver Cup, value £5, Earl of Aylesford, Packington Hall, Coventry.

Specially commended.—R. E. Duckering and Son, Northorpe, Lincoln.

Highly commended.—J. Lynn, Stroxton, Lincoln.

Commended.—J. Coate, Hammoon, Dorset, and J. and F. Howard, Bedford.

SILVER CUPS.

Best Steer or Ox in any of the Classes.—Silver Cup, value £40, W. Taylor, Glynley, West Ham, Sussex, for Devon Ox—4 years 6 months.

Best Heifer or Cow in any of the Classes.—Silver Cup, value £40, T. L. Senior, Aylesbury, Bucks, for Devon Heifer (Perfection).

Best pen of Leicesters, Cotswolds, Lincolns, Kentish, or other Long-wool Sheep.—Silver Cup, value £20, Lord Berners, for Leicesters.

Best pen of one-year-old Southdowns, Hampshire, or Wiltshire Downs.—Silver Cup, value £20, Lord Walsingham, for Southdowns.

Best pen of one-year-old Shropshire, Oxfordshire, Cross-bred, or any other breed of Sheep.—Silver Cup, value £20, John Overman, for Cross-bred.

Best pen of Pigs in any of the Classes.—Silver Cup, value £20, A. Benjafield, Stalbridge, Blandford, for Dorsets.

CHAMPION PLATE.

The best Beast in the Show (Extra Stock included).—A Piece of Plate, value £100, to T. Pulver, Broughton, Kettering, Northampton, for Shorthorn steer.

The best pen of Sheep in the Show.—A Piece of Plate, value £50, Lord Walsingham, for Southdowns.

THE IMPLEMENTS.

Taken as a whole, the show of engines and implements was an excellent one, affording convincing evidence of the increasing attention now given to every economical and effective means of cultivation by improved machinery. Every agricultural engineer and maker is on the look-out for any innovation or novel application of power to the preparation of the soil, and the culture and harvesting of crops. Notwithstanding the high prices charged for space, there was quite a rush for exhibiting and the only wonder in looking at the catalogue is how the immense number of bulky implements and engines ever got compressed and located in the limited exhibiting space at disposal after the great guns of the show—the live-stock had been accommodated. The wall area of the lower department of the Hall was closely packed with the bulky engines and implements of the leading makers, and to these we shall first direct attention. It may be stated that there were above and below stairs, about 200 stands in all; independent of the usual heterogeneous series of exhibitors in the avenue and concert-hall bazaar, few of whose exhibits had any direct connection with agriculture, however useful the objects might be in a domestic point of view. Thomson's road steamer, which attracted so much attention at the Oxford meeting, has evidently taken firm hold of the public mind, for, besides John Fowler and Co., we have Ransomes' Ipswich firm, and Robey and Co., of Lincoln, going in for their manufacture. Thomson's road steamer and Aveling and Porter's road locomotive are making some noise just now on the other side of the Atlantic, where their special advantages and demerits, as applicable to use in America, are being energetically discussed. Robey and Sons, Limited, of Lincoln, showed one of these steam traction engines, a class of engine adapted for so many practical purposes, being fitted with vertical boilers and wheels covered with Thomson's india-rubber flanges, and which several of the principal engine-makers are now manufacturing under licence. Those who have seen this new system of covering the wheels, are aware that the india-rubber tyres are guarded by an outside band of steel plates 18 inches broad and five inches deep, with intervals of $1\frac{1}{2}$ inches between them. At almost all times there are four of these plates bearing firmly on the ground through the elasticity of the rubber, so that the surface adhering to the roadway is generally $24\frac{1}{2}$ inches by 18 inches, or about $2\frac{1}{2}$ square feet superficial. An engine of the kind, just completed for the war department by this firm, shows a new development in their application to modern military operations. They also exhibited at the show an 8-horse power portable steam engine with patent direct acting governor expansion valve for economising fuel, a 3-horse power vertical engine, and one of their improved angle iron-framed thrashing machines with self-acting feeding apparatus which is light, and easy of transport, strong, and perfectly true and rigid under all circumstances. Wallis and Stevens, of Basingstoke, had some of their horse-power thrashing machines, fitted with patent spherical bearings, which are much in demand in Europe and the Colonies, from their portability. They are also fitted with a riddling apparatus. On their stand were also some winnowing machines, blowers, and corn screens. Richard Garrett and Sons, of Leiston Works, Suffolk, showed a selection of their portable engines, suited to purposes where economical consumption of fuel and water are essential; also a compact fixed steam-engine with horizontal cylinder, samples of boilers, and some of their improved corn and seed and general purpose drills. Richard Hornsby and Sons, of Grantham, had a good collection of turnip-cutters, drills, their "governor"

and "progress" reaping-machines, and other of the well-known implements of their make. They also exhibited new and improved single and double-furrow ploughs. The mechanical arrangements of the double-furrow are of easy adjustment to regulate the depth of furrow, to plough from 7 to 11 inches. By improvements in the manufacture of the parts of wheels, a new boss and a new axle, both cast-chilled, may be had to fit for 16d., thus rendering the farmer independent of accidents, by being able to replace readily essential parts. By doing away with the blades or alipes and the introduction of a frictional-wheel, the plough can be made to act both on the deep furrows as well as on the top of the ridge—a great advantage in strong land. In the single plough the bottom of the wheel is set at right angles with the share and coulter. Barrows and Stewart, of Banbury, brought forward some of their portable steam-engines, thrashing machines, and wrought-iron cattle cribs. Tuxford and Sons, of Boston, had some of their prize portable engines, and thrashing machinery, for which their firm is so well known. J. and F. Howard, of Bedford, exhibited their steam cultivator—a new and simple reaping machine, with wrought-iron wheels, of simple construction, which can be packed or put together easily, to which they have given the name of the International Reaper. They had also some of their new double-furrow ploughs, suited to different lands and various depths of cultivation. These are strong, simple, efficient, and light of draught. The new patent steering has an evident advantage, inasmuch as both the land wheel and furrow wheel are steered by one simple lever. The plough is thereby much more easily guided than when only one wheel is steered, and the turning at land's end is also greatly facilitated: the depth of the land which can be instantly adjusted, and the whole standard being upright and held firmly in a quadrant, little or no strain or vibration takes place; the same lever which effects this, also serves for lifting the plough out of ground at land's end. The patent expanding beam, for altering the width of furrow, has the advantage of being held at both ends by the fixed beam, thereby securing rigidity and durability. John Fowler and Co., of Leeds, had some of their steam cultivating and traction engines. They have also introduced a novelty on the wheels of the steam road-engine, in applying segments of india-rubber unprotected on the exterior of the steel plates, in addition to that which covers the wheel. Whether this will be found to wear well in use remains to be seen. Aveling and Porter, of Rochester, had one of their agricultural locomotives, of which it is said that more than 500 are now in use in Europe. Their utility and manageableness no one will call in question who had the opportunity, as at the Oxford Meeting, of seeing them moving about the Show-yard in all directions, lifting and dropping ponderous loads, under the sole guidance of a lad; they also showed a twenty horse power nominal steam-ploughing engine, a twenty ton steam-road roller, and one of Thomson's india-rubber tyre engine wheels, fitted with Sterne's segments and Aveling and Greig's patented improvements. Murray and Co., of Banff, had some of their double-furrow ploughs, to which we drew attention at the Oxford meeting, and combined convertible super and subsoil ploughs. Underhill, of Newport, also had light, strong, and cheap double-furrow ploughs, and a double-thrashing machine, fitted with elevator and grain cleaner. Mellard's Trent Foundry showed an American revolving mould-board plough, a good pulverizer and useful subsoil plough, some new patent grist mills, and chaff-cutters, and pulpers. Renbon Hunt had a variety of useful implements—such as seed drills, dressing machines, pulpers, and cake-breakers. Lewis and Hook, of Shrews-

bury, exhibited prize ploughs, turnip-cutters, slicers, and pulpers. Priest, Woolnough, and Anchell, of Kingston, had drills, horse hoes, and manure distributors. The Beverley Iron and Waggon Company, Limited, had on their stand some model carts, with harvest shelvings, patent wheels and axles, and liquid manure or water carts, which have always held a high place at the Royal Society's shows, also one of the double self-adjusting or reversible swathe delivery reaping machines, clod crushers, and corn mills. E. R. and F. Turner, of Ipswich, showed one of their four-horse portable steam engines adapted for use on the farm or for any general purpose, with a self-acting cut-off single and double blast thrashing and winnowing machines, rollers and crushing mills, which gained so many honours at Oxford. Holmes and Sons, of Norwich, also had a portable engine, manure-distributors and corn and seed drills. Ransomes, Sims, and Head exhibited some of their well-known portable engines, an eight-horse power single cylinder expansion steam engine, one of Thomson's patent traction engines; many of the various descriptions of ploughs for which this firm has been so long celebrated, especially the Newcastle prize-plough, and one of their new patent double furrow ploughs of light draught, fitted with a new lifting apparatus which throws the plough out of work instantly, whilst a hind friction wheel in the centre enables the plough to be turned in its own length, and turnip chaff-cutters and cake breakers, complete their exhibits. Ashby, Jeffery and Luke, of Stamford, showed portable and vertical engines, chaff cutters, cake mills, root pulpers, haymakers, horse rakes, and horsegear work. Woods, Cocksedge and Warner, of Stowmarket, were well represented in their prize horsegear, carts, farmers' mills, a large assortment of cattle food machines, and by some combined steam engines and boilers. Ruston, Proctor and Co., of Lincoln, confined themselves to steam engines, of which they had examples of single and double cylinder portables with patent variable expansion, eccentric and other improvements, fixed horizontal and vertical engines. The Reading Ironworks, Limited, had examples of their horizontal and portable engines, which were so successful at Oxford, thrashing machines, mowers, and safety horsegear for horse power. Marshall, Sons and Co., Limited, of Gainsborough, had some excellent examples of their prize portable steam engines, thrashing machines, grinding mills and other machinery. Brown and May, of Devizes, also had in the Hall prize portable steam engines with patent feed-water heaters and other improvements. Wm. Foster and Co., of Lincoln, exhibited an eight-horse power portable steam engine; and W. Crosskill and Sons, of Beverley, several strong-made carts. C. Powis and Co., of Millwall, were represented by a ten-horse power horizontal steam engine, with steam-jacketted cylinder and expansion gears, and a plain circular sawbench suited for agriculturists and others.

Ascending the galleries, we come next upon the less bulky machines and implements. Wm. Smith, of Louthorpe, exhibited one of his patent slide racks, which keeps the food dry, and was commended at Oxford. Joseph Apsey and Co., of Reading, produced their Eclipse chaff cutter, which professes to do a great deal. Southwell and Co., of Rugeley, brought prominently forward their chaff cutter and oil-cake breaker, with new registered, fluted tooth roller; disc root pulpers, strippers, and slicers; and their registered economical sheep rack. They had also on their stand one of their ridging ploughs, with apparatus for instantaneous expansion or contraction; and their Oxford prize cheese press, exceedingly strong, simple and cheap, and easily regulated from $\frac{1}{2}$ cwt. to 4 tons. Thomas and Taylor, of Salford, showed, among other domestic articles, one of their eccentric churns, which received the Royal Society's prize at Manchester. Thomas Lloyd and Sons,

of Old-street Road, had varieties for inspection of their flour mills, adapted to hand or power. Robert Boby, of Bury St. Edmunds, had one of his corn screening and dressing machines, which finishes corn from a single blast thrashing machine fit for market in one operation; also a hay-maker, which took the silver medal at the North Lancashire Agricultural Society. Carson and Toone, of Warminster, exhibited a great many chaff-cutting engines of different prices, cheese presses, horse gear, and turnip cutters, also Meikle's automatic lamb-creep for fold hurdles. The Vulcan Iron Works Company, of Ipswich had a self-acting counter balanced rake with improved teeth and driving seat, and a patent adjustment for raking the furrows, also sheep racks and useful style of carts. Wm. Rainforth and Son, screen makers, of Lincoln, showed their patent adjustable rotary corn screen for finishing grain. Metcalfe and Co, of Manchester, had a variety of useful machines for sharpening the knives of mowing machines. James Phene, of Braintree, some root graters and pulpers. John Davey, of Croft-hole, near Devonport, introduced his Excelsior Champion plough. Philip Johnston, of Oxford-street, showed some of his butter churns in operation, which had been rewarded at the last two shows of the Royal Agricultural Society, and other dairy utensils. Amies, Barford and Co., of Peterborough, a firm which carried off many high honours at Oxford, had on inspection their prize steaming apparatus, metal corn-grinding mill and flour-dressing machine, and oilcake mills, and Perkins's improvements in reaping and mowing machines, consisting of in-and-out motion and patent folding shafts for travelling. R. P. Taylor and Co., of Swan-lane, had a miscellaneous collection of chaff cutters, Indian corn crushers, corn and flour bins and grindstones. Robert and John Reeves, of Westbury, showed their broadcast artificial manure distributor, which gained the prize at the Manchester Show, sundry manure and seed drills, Richmond's patent water cart, which took the prize at the Gloucester Agricultural Society's meeting at Stroud, and Chandler's patent liquid manure drill made by Reeves. T. Sheen, of Aylesbury, exhibited a dozen varieties of chaff cutters. Robert Maynard, of Cambridge, had one of his patent portable power chaff engines, which gained a silver medal at Oxford, and which will cut straw into short chaff as fast as it can be supplied by a straw thrashing machine. James Coultas, of Grantham, exhibited some of his general purpose and other drills, which have gained prizes at the Paris Exhibition and so many of the local shows. W. Waide, of Leeds, showed some good barrel churns. Albert Watson, of Andover, some bone mills. W. Gilbert, of Shippon, Abingdon, a seed drill. George Ball, of Rugby, had one of his improved carts, which have gained several first prizes at local shows this year. Murton and Turner, of Kenninghall, Norfolk, had on their stand some single and double-row hand drills, and one twelve row drill for small occupations, a corn-dressing machine, and other implements. E. H. Bentall, of Maldon, had a large collection of his celebrated cattle food preparing machines, in oil-cake mills, corn crushers, disc pulpers, chaff cutters, and Gardner's turnip cutters, which do not choke. Smith and Grace, of Thrapton, also exhibited chaff cutters. J. Baker, of Wisbeach, had some of his efficient blowing, winnowing, and screening machines, which having been well spoken of, and gained several prizes, surely did not want the fictitious aid of a very mean attempt at deception in the misrepresentation of the medals gained, which are tripled on their show-card into bronze, silver, and gold, a clever, but not an honourable or business-like mode of multiplying awards. Coleman and Morton, of Chelmsford, exhibited some of their well-known cultivators, which have carried off in competition more than 80 prizes. Hunt and Pickering,

of Leicester, exhibited some of their two-horse mowing machines, and compound reaper and mower; their new patent knife-bar is suitable for any mower or reaper; the reaper has only one spur-wheel, with pinion enclosed within the outer or carriage wheel. The one-horse reaper will cut a breadth of five feet clear. Each pin has its own lubricator. Their turnip-cutter that took the prize at the Oxford meeting, and oil-cake breakers were also shown. Thomas Corbett, Shrewsbury, produced some of his champion double and single ploughs, winnowing and corn-dressing machines, metal grinding mills, turnip drill, and turnip hoe and grubber. H. and G. Kearsley, of Ripon, had one of their prize combined reaping and mowing machines. W. N. Nicholson, of Newark, exhibited small vertical steam engines, and also improved horizontal engines, combining compactness, strength, and extreme simplicity, on an entirely new design: the governor being made in 6 parts instead of 16 or 20, is very sensitive and very simple. The steam pipe being within the boiler condensation is avoided. These engines are very compact for shipment. They also showed some haymaking machines with forward and reverse motions, and horse rakes. Geo. Stacey and Sons, of Uxbridge, make chiefly chaff machines, horse gear, and small portable drills. C. Denning and Co., of Chard, exhibited their chain corn drills, for which they claim advantages over the cup drills. Richmond and Chandler, Salford, exhibited chiefly cheap chaff cutters, corn crushers, and horse gear work. Pickaley, Sims and Co. (Limited), made a good display of their prize chaff cutters and pulpers, oat and bean mills, horse gear standard mowing and reaping machines, and combined mowers and reapers, all of which have been so successful during the past year in competition with machines of the leading makers. Riches and Watts, of Norwich, had a large selection of their American grist mills. Hayes and Son, of Stamford, had many specimens of their prize carts, waggons, and drays. Thos. Perkins, Hitchin, some excellent drag harrows, shafts for reaping and mowing machines, and double-furrow ploughs with patent arrangements for steering and lifting clear of the ground at the land's end. The American implement makers were represented by Burgess and Key, J. G. Rollins, and W. A. Wood. Burgess and Key, of Brentwood, had McCormick's reaper with sheaf-delivery, a one-horse hand delivery machine, and their mowing machine adapted to cut corn; also a new and improved self-raker reaping machine, like those of Samuelson and Hornsby, the rakes being driven by one wheel and pinion, the size of which can be varied to regulate the size of sheaves. J. G. Rollins, of London, had a large collection of American hay and manure forks and rakes, spades and shovels, grindstones and sharpening stones, American axes, churns, pumps, &c. Walter A. Wood, of Thames-street, had reaping and mowing machines and Nova Scotia grindstones; but the wood frame mowers formerly relied upon seem giving place to iron frame mowers. One or two of the principal Sheffield tool houses were represented in the firms of Spears and Jackson, and Vickers, Sons and Co. The seedsmen were in strong force, and seldom has there been a finer collection of samples of roots. All the well-known houses were represented, including Messrs. Thomas Gibbs and Co., of Half-Moon-street; George Gibbs and Co., of Down-street; Sutton and Sons, of Reading; James Carter, of Holborn; Harrison and Co., of Leicester; Raynbird, Caldecott, and Co., of Basingstoke; Jno. K. King, of Coggeshall; J. C. Wheeler and Sons, of Gloucester; W. Hope, of Barking; and Alfred Hall, of Westbury. Suttons exhibited some of their prize yellow globe mangolds, which yielded 62 tons to the acre, and sugar-beet 44 tons to the acre, on the Barking Sewage

Farm. But even heavier crops than this have been produced—for Messrs. Sutton cite a yield of 85 tons per acre of the yellow globe, an enormous produce. One long red mangold shown weighed 46 lbs. Mr. W. A. Gibbs, of Gillwall Park, exhibited a model of a hot-blast and sheaf-house for drying hay, flax, and other grasses, and of a machine for drying seeds, or spent hops for litter,

The following is a complete list of the Exhibitors of Implements:

DOWN-STAIRS DEPARTMENT.

Gwynne, Engineers, 89, Cannon-street, E.C., and Hammer-smith Iron Works.
 Powis and Co., 60, Gracechurch-street, E.C., and Cyclope Works, Millwall Pier, London, E.
 Robey and Co. (Limited), Lincoln.
 Wallis and Stevens, North Hants Iron Works, Basingstoke.
 Garrett and Sons, Leiston Works, Suffolk.
 Hornsby and Sons, Spittlegate, Grantham, Lincolnshire.
 Harrows and Stewart, Banbury.
 Tasker and Sons, Engineers, Waterloo Iron Works, Andover, Hampshire.
 Tuxford and Sons, Boston, Lincolnshire.
 Fowler and Co., 71, Cornhill, E.C., and Steam Plough Works, Leeds, Yorkshire.
 Clayton and Shuttleworth, Lincoln, and 78, Lombard-street, London.
 Nalder and Nalder (Limited), Challow Iron Works, Wantage, Berkshire.
 Burrell, St. Nicholas Works, Thetford, Norfolk.
 Underhill, Newport, Salop, Agricultural Engineer.
 Humphries, Pershore, Worcestershire.
 James and Frederick Howard, Britannia Iron Works, Bedford.
 Aveling and Porter, Rochester, Kent.
 Holmes and Sons, Prospect-place Works, Norwich, Norfolk.
 The Beverley Iron and Waggon Company (Limited), Beverley Yorkshire.
 E. R. and F. Turner, St. Peter's Iron Works, Ipswich.
 Eddington and Co., Chelmsford, Essex.
 Ransomes, Sims, and Head, Orwell Iron Works, Ipswich.
 Ashby, Jeffery, and Lake, Stamford.
 Woods, Cockedge, and Warner, Suffolk Iron Works, Stowmarket.
 Raston, Proctor, and Co., Sheaf Iron Works, Lincoln.
 The Reading Iron Works (Limited), Reading.
 Marshall, Sons, and Co. (Limited), Britannia Iron Works, Gainsborough.
 Philip and Henry Philip Gibbons, Iron Works, Wantage, Berkshire.
 Brown and May, North Wilts Foundry, Devizes.
 Crowskill and Sons, Beverley, Yorkshire.
 Foster and Co., Wellington Foundry, Lincoln.

IN THE GALLERIES.

Smith, Poston, Lowthorpe, Hull, Yorkshire.
 Salmon, Bermondsey, Chemical and General Manure Manufacturer.
 Peirce, 109, Hatton-garden, London.
 Peasey and Co. (Limited), City Iron and Wire Works, Lincoln.
 Thomas Gibbs and Co., "Seedsmen" to the Royal Agricultural Society of England, Half-moon-street, Piccadilly, London, W.
 Arnold and Sons, Instrument Makers, West Smithfield, London, E.C.
 Wheeler and Son, Gloucester.
 Haddon, Albert Works, Strangeways, Manchester.
 George Gibbs and Co., Seedsmen, Down-street, Piccadilly.
 Unite, 291, Edgware-road, Paddington, W.
 Clarke Brothers and Odling, Kirk White-street, Nottingham.
 Day, Son, and Hewitt, 22, Dorset-street, London, W., Animal and Agricultural Chemists.
 Raybird, Caldecott, Bawtree, Dowling, and Co. (Limited), Corn, Seed, Manure, and Oilcake Merchants, Basingstoke.
 White and Son, Great Bentley, near Colchester, Essex.
 Duffield, 23 and 60, William-street, Regent's-park, London, N.W.

White and Co., 15, Trinity-street, Borough, London.
 Fox and Co., 12, High Holborn.
 Dowling, 2, Little Queen-street, Holborn.
 Bellamy, Byng-street, Millwall, London.
 Jelley, Son, and Jones, Iron and Grindstone Merchants, 196, Blackfriars-road, London.
 Inglis and Co., 88, Castle-street, Holborn, London, E.C.
 Haynes and Sons, Edgware-road, London, W.
 The Farmers' Supply Association (Limited), 69, King William-street, London, E.C.
 Davis, Globe Wharf, Mile End, London.
 Croggon and Co., Felt Manufacturers, Upper Thames-street, London.
 Chappell and Parry, 55, Holywell-lane, Shoreditch, E.C.
 Apsey and Co., 47, Soho-street, Reading, Berkshire.
 Angel, 171, Fleet-street, E.C.
 Vallance, Engineer, Cannon-street, London.
 The Agricultural and Horticultural Co-operative Association (Limited), 29, Parliament-street, Westminster.
 Bayliss, Jones, and Bayliss, 84, Cannon-street, London.
 King, 11, Bermondsey-street, London.
 James and Co., Engineers and Machinists, Great Suffolk-street, Borough.
 Hunter, Implement Works, Maybole.
 Dodge, India Rubber Manufacturer, 79, Upper Thames-street, London.
 Eagles, 23, Fenchurch-street, London.
 The Atmospheric Churn Company, 119, New Bond-street, London.
 Brown and Co., 39, Charlotte-street, Blackfriars-road, London.
 Brook and Co., Garden Engines, 10, Featherstone-buildings, London.
 Harrison and Sons, Royal Midland Seed Warehouse, Leicester.
 Lyon, 32, Windmill-street, Finsbury, London.
 Edgington and Co., 52, Old Kent-road, London.
 Carter and Co., the Royal Seedsmen, 237, High Holborn, London.
 Hare and Co., Draughtsmen and Engravers on Wood, 31, Essex-street, Strand.
 Edgington, 2, Duke-street, London Bridge.
 King, Seed Grower, Coggeshall, Essex.
 Pollard, Jephson, and Co., Southwark, London.
 Sutton and Sons, Royal Berks Seed Establishment, Reading.
 Owens and Co., Whitefriars-street, London.
 Cottam and Co., 2, Winsley-street, Oxford-street, London.
 F. and C. Hancock, 6, Victoria-terrace, Dudley, Worcester-shire.
 Callingford, Wellington-road, Forest Gate, Essex.
 Stacey and Sons, Uxbridge, Middlesex.
 Burney and Co., Millwall, London.
 Hancock and Co., Sutton Coldfield, Warwickshire.
 I. and T. Hepburn and Sons, Long-lane, Southwark.
 Ball, North Kilworth, near Rugby.
 Tree and Co., 22, Charlotte-street, Blackfriars-road.
 Fardon, Linalade Iron Works, Leighton Buzzard.
 Gilbert, Shippon, Abingdon, Berkshire.
 Reynolds and Co., 56 and 57, New Compton-street, London.
 Ravenscroft, Farmer Office, Salisbury-square, Fleet-street.
 Southwell and Co., Agricultural Engineers, Albion Iron Works, Rugeley, Staffordshire.
 Thomas and Taylor, Victoria Bridge, Salford, Manchester.
 The Ravensthorpe Engineering Company, Ravensthorpe, Mirfield.
 Randell and Sons, North Walsham, Norwich, Norfolk.
 Teighe and Smith, Bridge-road, Limehouse, London.
 Lloyd and Sons, 15, Old-street-road, London.
 Brown and Co., 90, Cannon-street, London.
 Davey, Excelsior Plough Works, Croft-hole, near Devonport, Cornwall.
 Lewis and Hoole, Salopian Iron Works, Shrewsbury.
 Rainforth and Son, Brayford Head, Lincoln.
 Goodwin, Engineer, Great Guildford-street, Southwark.
 Mitchell and Co., Engineers, 3, Hunt-street, Brook-street, Manchester.
 Hughes and Sons, 21, Mark-lane.
 Peene, Rayne Foundry, near Braintree, Essex.
 Denton, St. Peter's Works, Wolverhampton.
 Joseph and James Lane, Engineers and Boiler Makers, 10, Cranbrook-street, Old Ford-road, London.
 Herbert and Sons, Scale Makers, 319, Gray's-inn-road.

Tangye Brothers and Holman, 10, Lawrence Pountney-lane, London.
 F. and G. Rosher, Upper Ground-street, Blackfriars.
 The Driffield and East Riding Pure Linseed Cake Company (Limited), Driffield, Yorks.
 Johnstone, 290, Oxford-street, London.
 Newton, Manor Works, Manor Road, Bermondsey.
 Tipper, Chemical Works, Balsall Heath, Birmingham.
 Amies, Barford, and Co., Queen-street Iron Works, Peterborough.
 Burgess and Key, 96, Newgate-street, London.
 McNiell and Co., Bunhill Row, London.
 E. and H. Roberts, Deanshanger Iron Works, Stony Stratford, Bucks.
 Mellard's Trent Foundry (Limited), Midland Agricultural Works, Rugeley, Staffordshire.
 Smith, Royal Iron Works, Kettering, Northamptonshire.
 Nicholson, Trent Iron Works, Newark.
 Murray and Co., Banff Foundry, Banff.
 Foster and Sons, Star Iron Works, Witham, Essex.
 Milburn, 7, Told-street, Manchester.
 Samuelson and Co., Britannia Works, Banbury, Oxfordshire.
 Hope, Parsloes, Barking, Essex.
 Murton and Turner, Agricultural Implement Manufacturers, Guiltcross Works, Keninghall, Norfolk.
 Norris and Co., Shadwell, London, E.
 Ransome and Co., 10, Essex-street, Strand, London, W.C.
 Priest, Woolnough, and Michell, Ceres Iron Works, Kingston-on-Thames.
 Bentall, Heybridge Works, Maldon, Essex.
 Spear and Jackson, Etna Works, Sheffield.
 Sheen, Aylesbury, Bucks.
 Maynard, Whittlesford Works, near Cambridge.
 Coultas, Perseverance Iron Works, Spittlegate, Grantham, Lincolnshire.
 Waide, 5, South Brook-street, Hunslet Lane, Leeds.
 Watson, Acre Iron Works, Andover.
 Taylor and Co., 4, Adelaide Place, London Bridge.
 Ray, Mead, and Co., 38, Upper Thames-street, London.
 Bobey, St. Andrew's Works, Bury St. Edmunds, Suffolk.
 Whitmee and Co., 101 to 103, St. John-street, London.
 Holgate and Co., 33, Dover Road, Borough.
 Hill and Smith, Brierley Hill Iron Works, Staffordshire.
 Glanvill (late Boyd and Co.), 48, Cannon-street, London.
 Tyler and Co., Engineers, 84 and 85, Upper Whitecross-street, London, E.C.
 Reid and Co., Bon-Accord Works, and Guild-street, Aberdeen.
 Headley and Son, Exchange Iron Works, Cambridge.
 Cottis and Sons, of Epping, Essex.
 Smyth and Sons, Peasenhall, Suffolk; Witham, Essex; Paris (Rue Magnan, 17).
 Jones, Milton House, Worcester-street, Gloucester.
 Matthews, Son, and Co., Driffield, Yorkshire.
 Handley and Co., Millstone Builders, &c., York-road, Stepney, Middlesex.
 Gooday, Chelmsford.
 Matthews and Co., 139, Cannon-street, City, E.C.
 Alway and Son, 37, Chapel-street, Pentonville, London, N.
 Perkins, Hitchin.
 Morton and Co. (Limited), Liverpool, Lancashire.
 Pinfold, Warwickshire Iron Works, Rugby.
 Richards, 41, Wellington-street, Covent Garden, W.C.
 Boulton and Co., Rose Lane Works, Norwich.
 H. and G. Kearsley, Ripon, Yorks.
 Follows and Bate, Manchester.
 Corbett, Perseverance Iron Works, Shrewsbury.
 Kingston and Trowbridge, 107, Old-street, St. Luke's, London, E.C.
 Kittmer, Fulstow, Louth, Lincolnshire.
 Hodgson, Louth, Lincolnshire.
 Hunt and Pickering, Leicester.
 Gibbs, Gillwell Park, Sewardstone, Essex.
 R. and J. Reeves, Bratton Iron Works, Westbury.
 Hall, Westbury Farm, Westbury, Wilts.
 Notcutt and Peters, the Vulcan Iron Works Co., Ipswich, Suffolk.
 Carson and Toone, Wiltshire Foundry, Warminster, Wilts.
 Baker, Compton, Newbury, Berks.
 Riches and Watts, Duke's Palace Iron Works, Norwich.
 Hayes and Son, Scotgate Works, Stamford.

Le Butt, Corn Screen and Haymaker Works, Bury St. Edmunds, Suffolk.
 Warren, Iron Foundry, Maldon, Essex.
 Sawney, Beverley, Yorkshire.
 James, Tivoli Works, Cheltenham.
 Wedlake, Hornchurch and Romford, E., Essex.
 Cambridge and Co., St. Philip's Iron Works, Bristol.
 Corcoran, Witt, and Co., 41, Mark Lane, London.
 Hobbs, Basingstoke.
 Ball and Sons, Rothwell, Northamptonshire.
 Denning and Co., Chard, Somerset.
 Rollins, Old Swan Wharf, London Bridge.
 Wood, 77, Upper Thames-street, E.C.
 Hunt, Earl's Colne, Essex.
 Page and Co., Victoria Iron Works, Bedford.
 Larkworthy and Co., Lowesmoor Iron Works, Worcester.
 Bristol Wagon Works Company (Limited), Temple Gate, Bristol.
 Dell, 72, Mark Lane, E.C.
 The St. Pancras Iron-Work Company, Engineers, Old Saint Pancras Road, London, N.W.
 Pickaley, Sims, and Co. (Limited), Bedford Foundry, Leigh, Lancashire.
 Bradford and Co., 63, Fleet-street, London, and Cathedral Steps, Manchester.
 Norton, 21, Mark Lane, London, E.C.
 Richmond and Chandler, Salford, Manchester.
 Coleman and Morton, London Road Iron Works, Chelmsford, Essex.
 Baker, Falcon Works, Wisbeach.
 Smith and Grace, Thrapston.
 Hensman, Ampthill, Beds.

ANNUAL MEETING.

On Tuesday the annual meeting was held in the Board Room of the Club, the Earl of Powis in the chair. There was more than the usual attendance of members.

The following report of the Council was read by the honorary secretary, Mr. Brandreth Gibbs, and on the motion of Mr. Cantrell, seconded by Mr. Ellman, adopted.

The Council beg to lay before the General Meeting their Annual Report for the past year. The Council have held four meetings, which have been well attended. In addition to the ordinary routine business of the Club, the following subjects have had their consideration:

I. The revision of the prize sheet for the present Show, and the following alterations have been made: 1st. In the Scotch horned cattle, separate classes have been established for the West Highland breed. 2nd. In the divisions for sheep of the Leicester, Cotswold, Lincoln, Southdown, Hampshire or Wiltshire, Shropshire and Oxfordshire breeds, new classes have been established for ewes. 3rd. The champion prize plate of £100 value, for the best beast in the Show, has again been offered; also the champion plate of £50, for the best pen of sheep in the Show; but the offer of plate for the best single sheep has been discontinued. The champion plate for cattle has been won by Mr. Thomas Pulver, of Broughton, Northampton, for his ox, exhibited in the extra stock in consequence of its having been shown in the classes last year. The champion plate for sheep has been won by the Right Hon. Lord Walsingham, for his pen of 20-months' Southdown wethers, exhibited in class 46. It has been determined to limit the competition for the silver cups for sheep in the Shropshire, Oxfordshire, and cross-bred divisions to one-year-old sheep, as has always been the case in the Southdown division. 4th. The silver medals for single sheep in extra stock have also been discontinued, and a silver cup, not exceeding £5 in value, substituted. The same alteration has been made for the best pig in extra stock. 5th. Various minor alterations in the amounts of prizes have been made. 6th. The wording of the rules of exhibition have been amended.

II. The subject of the appointment of judges has had the further consideration of the Council, and it was resolved that no person who will act as judge at the Birmingham Show the same year shall act at the Smithfield Club Show.

III. The divisions to be adjudicated upon by each set of judges has been revised, so as to distribute the amount of work more evenly than heretofore.

IV. The Council have taken additional precaution to prevent unqualified persons obtaining admittance into the hall previous to the appointed time. The animals have thus remained undisturbed, and obtained the rest so requisite after long journeys to the Show.

V. The Council have accepted the offer of the Right Honourable the Earl of Powis, the President of the Club, to give a prize of £20 for the best instrument for slaughtering animals, which shall be an efficient substitute for the pole-axe, by separating the spinal marrow. The competing instruments are to be delivered at the office of the Honorary Secretary on or before the 1st of October, 1871: and the exhibitors are required to show their instruments in practical operation at such times and places as the judges appointed by the Club shall determine.

VI. The Council have elected Mr. C. Stephenson, of Park Farm, Woburn, Beds, to fill the vacancy caused by the death of Mr. Thomas Twitchell, who for many years was a successful competitor at the Club's Shows, and had lately filled the office of Steward of Live Stock.

VII. The Council having observed with regret the small attendance at the Club's annual dinner, notwithstanding a dining hall adjoining the show has been provided, on the last two occasions, have determined to discontinue the dinner this year.

VIII. The Council also determined to discontinue the report on the animals exhibited at the Show, as however interesting such might be during the time the exhibition remain open, it appears there has not been sufficient materials for the compilations of such a report as should possess permanent value for future reference sufficient to make it desirable to incur the expense of its preparation and printing.

IX. The Council have again voted their thanks to the Rector of Islington, for the special service on Sunday last, for the herdsmen and shepherds, who attended in large numbers.

X. The Lords of the Privy Council have again granted special permission for animals exhibited at the Club's Show to be removed beyond the Metropolitan boundary. A certificate signed by one of the Club's veterinary inspectors must, however, be obtained, attesting that the animals to be so removed do not exhibit any indication of infectious or contagious disease.

XI. The Council beg to lay before the meeting the annual balance-sheet of the Club from December 1st, 1869, to December 1st, 1870. Of the balances in hand amounting to £2,788 19s. 3d., and Stock in Three per Cent. Consols £4,513 10s. 11d. The statement will be printed, and a copy furnished as usual to each member of the Club.

In conclusion, the Council again congratulate the members on the continued prosperity of the Club.

Signed by Order of the Council,

(Signed) B. T. BRANDRETH GIBBS,

Hon. Secretary.

The presentation of the Champion Plate and silver cup was then made.

The President having handed the £100 plate to Mr. Pulver as the exhibitor of the best beast in the show,

Mr. PULVER, in expressing his acknowledgments, said it was now 20 years since he first appeared as an exhibitor at the Club's Show, and when he did so he was unsuccessful, although he obtained a commendation. Some of his friends then told him that it was useless for him to show in the same class with noblemen and gentlemen, the length of whose purses made them more than a match for his skill and perseverance (Hear, and a laugh). However, in spite of this counsel, he resolved to persevere, and subsequently he had taken a great number of prizes, alike first, second, and third, as well as received some commendations; and he did not cease his exertions until he had carried away the first honours of the yard (cheers). He ventured to say that his ox had made more money than any ox in England before; for he had taken 23 first prizes, two second, and one third, the total amount of which was £368 5s. When he had done exhibiting, too, he should receive £100 for him. Next week he would go to Leeds, and if liked there, he anticipated that he would win 50 guineas more. That he thought would be making more money than any other animal had ever done (loud cheers).

The next presentation of plate was that of £40 value to

Lord Walsingham, the exhibitor of the best pen of sheep in the Show.

Lord WALSHINGHAM, in returning thanks said, he supposed he must follow the example of the gentleman who had just received the largest and most valuable prize, by making a little bit of a speech, and he promised that it should be a short one. In adopting the breed of the South Downs he was mainly influenced by the idea of producing good mutton (Hear, and cheers). When he entered into possession of his farm, about 30 years ago, he found a flock set down upon it, and from that time to this it had been rising little by little, until he had been able to gather great honours (Hear, and cheers). He thanked the Club for giving him the opportunity of winning such a magnificent specimen of art, and he hoped that he should be equally successful in another year (applause).

Mr. TREVOR LEE SENIOR having been presented with a silver cup, value £40, for the best cow or heifer in any of the classes, remarked that that was the first year he had been an exhibitor at the Smithfield Club Show, and that he intended, if possible, to "keep it up," and win again for many years to come.

For the silver cup, value £20, given to Mr. John Overman, for the best pen of one-year-old Shropshire, Oxford cross-bred, or any other breed of sheep in any of the classes, Mr. ROBERT OVERMAN returned thanks, in the absence of his relative from indisposition; and added the expression of a hope that the day was not far distant when he would change places with Lord Walsingham, and take the plate (Hear, hear, and laughter).

Mr. BENJAMIN, in accepting the cup for best pen of pigs in any of the classes, observed that that was only the second year of his appearance as an exhibitor at the Show, but the second time he had gained a prize (cheers).

Lord BRIDPORT had the honour to propose the election of the right. hon. Lord Penrhyn as President of the Club for the year 1872. The noble lord was well known to have been a successful exhibitor on many occasions at the Smithfield Club Show, and would be happy to accept the office of President if the members would do him the honour of electing him (cheers).

The motion was seconded by Mr. Duckham, and agreed to unanimously.

The Vice-President, Trustees, and Honorary Secretary were then re-elected, and the retiring Members of the Council, namely, Mr. Downing, Mr. James Howard, M.P., Mr. Keary, Mr. Leeds, Mr. R. Overman, Mr. Quartly, Mr. Robinson, and Mr. Senior—were replaced by the following house list: Mr. Thos. C. Booth, Warlaby, Northallerton; Mr. John Giblett, Glebe Villa, Church-street, Stoke Newington; Mr. Richard Hornsby, Spittlegate, Grantham; Mr. E. W. Moore, Coleshill, Highworth; Mr. Henry Overman, Weasenham, Brandon; Mr. T. L. Senior, Broughton House, Aylesbury; Mr. Wm. Taylor, Thingehill Court, Hereford; and Mr. J. S. Turner, Chyngton, Seaford, Sussex.

Prior to the election of the Council Mr. HEATH suggested that, as the number of members had so greatly increased, it would be well if the "house list" were in future to contain twelve names, from which eight might be selected to supply the vacancies occasioned by the retiring members of Council.

The PRESIDENT replied that, although the "house list" comprised but eight names, gentlemen were at liberty to strike out any or all of them and substitute others for them.

Mr. DUCKHAM remarked that Mr. Heath and other gentlemen did not like to be restricted to the "house-list," which was only placed in their hands just before the election. If instead of adopting the present practice the Council were to send round a "house-list" of ten or twelve, with the ticket of admission to the yard, to every member who had paid up his subscription, time would thus be given to look through the list and mark off the names approved of. By that means they would be free from the imputation of committing themselves to foregone conclusions with reference to the acts of the Council, and dissipate the feeling that they were a close corporation and self-elected body (Hear, hear).

Mr. BEASLY thought the explanation of the president sufficiently satisfactory; moreover, if any alteration was to be made in the system of election, due notice ought to be given of the proposal. It was impossible to adopt any amendment on the present occasion.

Mr. DUCKHAM: It was merely a suggestion thrown out for another year.

Mr. WILLMORE said that Mr. Duckham had faithfully expressed the sentiment entertained by a large number of members, who thought with him that the Council was rather too much of a close borough (Hear, hear). If the voting papers were in the hands of members at an earlier period, it would be one way of meeting the objection, particularly if it contained the names of twelve persons from whom gentlemen might select eight.

Mr. FREDK. MARTIN complained that there was no Kentish man upon the list, and said he should like to have seen one there.

The PRESIDENT: Gentlemen, I would observe that the existing bye-law provided that the Council should prepare a list of the eight members whom they proposed for election, and that a copy of the list should be given to every member who applied for it to the secretary on the day of the general meeting, or during any one of the three days previously—Sunday excepted. If it were desired that on future occasions the list should be sent round to members a little earlier, with the ticket of admission to the yard, that matter could be brought before the Council and considered. It was open to anyone at this meeting, however, if he thought his county or district was not represented, to substitute any names he might consider proper for those in the house-list.

Mr. Brandreth Gibbs read the following abstract of the audited balance-sheet:—

ABSTRACT STATEMENT from December 1st, 1869, to December 1st, 1870.			
RECEIPTS.			
Balance in the hands of Bankers, December 1st, 1869	...	£2,671	0 5
Balance in the hands of Hon Secretary, December 1st, 1869	...	21	0 11
		£2,692	1 4
To Subscriptions received by Bankers and 1 years' Dividend...		131	8 1
338 Subscriptions received by Assistant Secretary		354	18 0
Agricultural Hall Co. for Show, 1869	...	1,000	0 0
Life Compositions	...	120	15 0
Fines, 1869	...	17	0 0
Payment Implement Stands, 1870	...	1,063	8 0
Non-members Fees, 1870	...	270	18 0
		£8,250	3 5
EXPENDITURE.			
Prizes Awarded, including one Prize of £5 not presented for payment, 1868	...	£2,075	0 0
Silver Cups	...	320	0 0
Medals	...	135	16 0
Rewards to Feeders of First Prize Animals	...	62	0 0
		£2,592	16 0
Stewards' Fees	...	80	0 0
Judges' Fees	...	105	0 0
Veterinary Inspector and Assistants	...	25	10 0
Government Pass Master	...	7	0 0
Report on Stock	...	15	0 0
Inspector of Implement Galleries	...	8	8 0
Weighing Clerk	...	2	12 6
		243	10 6
Bills, &c., Advertising, Printing, Disinfecting, &c.	...	308	14 6
Assistant Secretary's Salary, Clerks Time, Postage, &c.	...	137	8 1½
		£3,340	9 1½
Life Compositions Invested	...	120	15 0
Balance in hands of Bankers, Dec. 1st, 1870	...	2,779	17 11
Balance in hands of Hon. Secretary, Dec. 1st, 1870	...	9	1 4½
		2,788	19 3½
		£8,250	3 5

INVESTMENT ACCOUNT.

1870: December 1st—Amount of Stock standing in Three per Cent. Consols in the names of the Trustees	...	£4,513	10 11
N.B.—This includes £2,600 surplus Annual Income Invested till required for Current Expenses.			
Examined and found correct—			
(Signed)	J. N. BRASLEY.		
	WM. SANDAY.		
	WILLIAM B. CANNING.		
	J. S. TURNER.		

After several new members had been elected,

The MARQUIS of EXETER rose and said it now became his pleasing duty to ask the meeting to vote its thanks to his noble friend the Earl of Powis, for the able and zealous manner in which he had performed the duties of President of the Club for the year 1870, and for his conduct in the chair that day. All who were acquainted with his noble friend knew that whatever he took in hand he executed to the best of his ability; and he was quite sure, although he (the Marquis of Exeter) had unfortunately from various causes been absent during that year, that his noble friend had conducted the business of the Club with his usual ability, actuated by the single desire of promoting the success of the institution (cheers).

Mr. C. S. READ, M.P., had much pleasure in seconding the vote of thanks to Lord Powis for the admirable manner in which he had discharged the duties of president for the year. If he might be allowed, whilst on his legs, he would like to throw out a suggestion for the consideration of the Council, when they came to revise the prize list for next year. He would like to direct attention to class 62 in the catalogue—that was to say, the light-weight cross-bred sheep, described as "Long and short woolled cross-bred fat wether sheep, 1 year and under 23 months old, not to exceed 220lbs. live weight." He thought it undesirable that a great national club like this should encourage a weight that was not required. The light weight of a Southdown he could understand; but the light weight of a cross-bred, if it were of good quality, was something that he could not understand. Even with the Southdowns, when he saw that Lord Walsingham could bring them out at one year almost as heavy as if they were two years old, it seemed to him that the days of light weight for Southdowns were nearly at an end (Hear, hear). But with regard to cross-bred sheep, which he looked on as the sheep for the million, he contended that the bigger and better they were the more advantageous would it be alike for the farmer and the consumer. He hoped then that the prizes for cross-bred sheep would not be reduced, but rather let them add to the number of prizes for yearling sheep. It was the most important class in the yard; and if it were possible to subdivide it by allowing the cross-bred mountain sheep to appear in another class he should not object, but he urged on the Council the desirability of striking out such an unnecessary class as that to which he had called attention (loud cheers).

The motion was carried amid cheering.

The EARL of POWIS was very much obliged for the compliment, and assured the meeting that it had given him great pleasure to have been selected as their President during the current year. The Smithfield Club was one of the most ancient agricultural societies in the kingdom, and he was happy to believe that it was increasing every year in respect of the merits of the animals shown, and so far as the accommodation allowed, in numbers. They had that morning been honoured with a visit of the Prince of Wales, who had gone over the show, and the Council had been in attendance upon him up to the hour of the annual meeting. With respect to the point which Mr. Read had mentioned for the consideration of the Council, he confessed that, as a Welshman, he was glad to hear that gentleman put in a salvo which would give the cross-bred mountain sheep some chance in the classes. Without discussing the question whether it was desirable to encourage light weight cross-bred sheep, from what he knew of the tame sorts he ventured to think that a cross-bred Welshman would have very little chance if he were exhibited against what he might term low country sheep. The gradual increase of enclosures in all the hilly parts of the country, the spread of wire fences, which confined the flocks within legitimate bounds, and the gradual extension of culture on the sides of the hills by the help of these enclosures, naturally made the mountain farmer anxious to increase the weight of his sheep by crossing with some of the lowland sorts. By that means he got a more profitable animal, and the infusion of hill blood and qualities did not prejudice the goodness of the mutton (Hear, hear). Then, as to the suggested alteration of the house-list, it would be within the competence of the Council to circulate the list prior to the annual meeting, at the time when the card of admission to the yard was sent to each member. That arrangement would give them more time to make up their minds as to whom they desired to introduce into the council; but to vary the form of the house-list by extending it to twelve names, would require an alteration

of the bye-law, and any proposition which involved that result must, of necessity, be brought forward upon a notice to be given before the 1st of November next year. It could then be considered at the general meeting to be held this time twelve months. There was yet one other matter to which he was desirous of calling attention, though it was not mentioned in the report. On coming to town last Saturday he found awaiting his arrival a letter from M. Drouyn de Lhuys, who was well known to most people as having been an eminent minister under the French Empire, who was president of the French Society of Agriculture, established about three years ago, and an honorary member of the Royal Agricultural Society of England. M. Drouyn de Lhuys had received a letter from Mr. Jas. Howard, member for Bedford, inquiring whether it would be acceptable if a committee were formed in England to provide for those unfortunate French agriculturists who had suffered the loss of their produce by the presence of an invading army contributions, either in money or in kind, of the necessary seeds for their next crop. M. Drouyn de Lhuys replied that the proposal was one which he received with the utmost gratification, and he immediately wrote to the Minister of the Interior to know whether the French Government would afford the requisite facilities for such an organisation. To this the Minister answered that if such a scheme were set on foot he would direct that those facilities should be afforded either at Cherbourg or at Brest, and further that he would also communicate with the prefects of the Departments and the maires of the smaller divisions, so that means might be adopted for such supplies, whether in money or in kind, being properly distributed amongst those who were *bona fide* agriculturists that had suffered the loss of their seeds and crops by the war, and that precautions might be taken that no one should receive an undue proportion. M. Drouyn de Lhuys added that upon being made aware that Mr. Howard had not been able, in consequence

of illness, to communicate the nature of the scheme to the public, he had written him (Lord Powis), as president of the Smithfield Club, upon the subject, in the hope that, as the annual meeting of the Club was to take place that day, publicity might be given to the scheme either through the medium of the Club's transactions or of the newspaper press. Moreover, his Excellency had given full permission to communicate to the members of the Club the letter he had written to him (Lord Powis), together with the letter he had addressed to Mr. Howard in answer to his suggestion, and the letter received by M. Drouyn de Lhuys from the French Minister of the Interior. He need hardly say that a hostile army in any country would be sure to eat up everything in the shape of food, fodder, and seed; and that this was a most grievous calamity to the occupiers of the land, more especially in a country like France, where the number of small occupiers was very large in proportion. Even under the best-regulated system, when a "requisition" was made, and the memoranda for payment given, the loss of seed was a matter which could not be recompensed by money to the smaller cultivators. He hoped, then, that Mr. Howard's illness would not be of long duration, and that he would be enabled to carry the benevolent idea he had suggested into effect. The correspondence referred to would be placed in the hon. secretary's hands for translation into English, and then communicated to the papers. He also wished to say that if the scheme should go on, and any gentlemen were desirous of giving seed of any kind for this purpose, the hon. secretary would keep a register of the intended presents, and communicate with M. Drouyn de Lhuys, who was now residing in Jersey, so that proper information might be given to the donors as to the manner in which their gifts were to be transmitted (Hear, hear).

The meeting then separated.

THE CENTRAL FARMERS' CLUB.

THE SIZE OF FARMS.

The concluding discussion meeting of the year was held on Monday evening, December 5, at the Salisbury Hotel. The chair was taken, in the absence of the chairman of the year, Mr. James Howard, M.P., from indisposition, by Mr. H. Trethewy. The subject appointed for consideration—viz., "The Size of Farms"—was introduced by Mr. J. Trask, of Highleaze, Yeovil.

The CHAIRMAN said: Before we enter upon the business of the evening, I must offer a few words of apology for appearing before you in the position which belongs to the President. You are probably aware that that gentleman is labouring under bad health. The Committee exceedingly regret the cause of Mr. Howard's absence—a regret in which I am sure you all share (Hear, hear)—and they have done me the honour to request me to take the chair on this occasion (cheers). I feel that to be a great compliment, and I have great pleasure in presiding. Without further trespassing on your attention, I will now call upon Mr. Trask to introduce the subject fixed for your consideration—viz., "The Size of Farms."

Mr. TRASK then said:

When the subject for this evening's discussion was selected by the Committee, I am not aware that it had formed the principal topic of debate at a Farmers' Club. The size of farms, however, has been very frequently commented on by many eminent writers on political economy, and the greatest difference of opinion has prevailed on the question; but the innumerable discussions and inquiries arising out of the Irish land question have tended to throw a great deal of light upon the subject; and, since it has been placed on the card for discussion here, it has been referred to and debated on different occasions during the present year. The question, however, is by no means exhausted, and I am quite sure it will afford ample scope for our discussion this evening; and, from the elucidation which the subject has already received, we are enabled to express our opinions on it with the greater confidence. As different views have been

taken on this question, it has been said that it was looked at from an English or from a foreign point of view; but in this eminently practical assembly, I am certain that, whatever opinions are put forward, whether they may be considered either English or foreign, they will be your honest and conscientious opinions, and expressed with a view of placing the matter in a fair and just light before the country. In treating of the size of farms, it must be clearly understood that I am speaking of farms which are cultivated for the purpose of producing the staple food of the community, and affording at the same time a fair return on the cost of production. We sometimes hear of very large sums having been made from small plots of land, generally in an exceptional season, and from some particular kinds of vegetables perhaps, which there happened to be a temporary demand for just then; or from the successful raising of flowers; or, it may be, from an extraordinary crop of fruit, or other productions of a similar kind. But I need not stop to show, what must be quite obvious to everyone, that the soil of this country cannot be *generally* applied to the cultivation of a kind of produce for which there is a very limited demand; therefore, in the remarks which I shall make I shall leave gardens and gardening entirely out of the question, and refer to farms and farming, with a view, as I said before, of producing the staple food of the country, which is, and must always be, the question above all others of the greatest importance to the community at large. In referring to the comparative advantages and disadvantages of large and small farms, the systems that prevail in other countries have been invariably referred to as an illustration of what may be done in this country; but the circumstances of different districts of our own country even, vary greatly, much more do the circumstances of different countries vary, in the important elements of soil and climate particularly; and this is a fact that we should be careful to keep in view. I must not be understood to infer, however, that we can learn nothing from foreign countries, we are only too happy to adopt anything that is a

real improvement on our own system, come from whence it may, and I do not at all agree with that member of the Royal Agricultural Society who said that the cost of the article on the farming of Belgium, that appeared in their *Journal*, was a waste of the funds of that Society. "Look, for example," said this gentleman with indignation: "look at the opening article on 'Petite Culture' in the last number. Why, there was not a single thing described in that paper which an English farmer would think of imitating. In fact, the article was nothing but waste paper." The gentleman forgot, I think, that it is quite as desirable to know what to avoid as well as what to do; besides, the farming of Belgium was popularly believed to be something vastly superior to anything we have attained to in England. A very erroneous notion, that this article, prepared with so much ability by Professor Voelcker and Mr. Jenkins, has entirely refuted. But whether we look at the state of agriculture, or the condition of the peasantry of any of the continental states, as laid before us with so much ability and clearness, after a great deal of personal observation and inquiry in those states by the chairman of this Club, we can have little difficulty in coming to the conclusion that we have nothing to gain by following any of the continental systems, whatever we may advantageously learn from them in matters of detail. Under these circumstances I feel that I should not occupy your time very profitably if I went at any length into a comparison of the state of English as compared with the state of continental agriculture. This matter cannot be better left than it has been by our able chairman. I shall proceed, therefore, to an examination of the results of the two systems, of large and small farming, which are exemplified under similar advantages, as regards soil and climate in different parts of our own country. But it is not my intention to compare the details of a balance-sheet of either a large or a small farm, I consider that it is quite unnecessary to do so; and, as a rule, the publication of fictitious balance-sheets should be avoided. I trust, however, that there are present this evening the advocates of both systems, who will not hesitate to express their different views, for by so doing we can best remove the erroneous ideas and prejudices that surround the question before us. The advance which has taken place in the science of agriculture during the last quarter of a century or more, has been quite equal, I believe, to the progress that has been made during the same period in any of the other industries of this country. Notwithstanding this, however, our population has increased in a much greater ratio than has the produce from the land. In the generality of continental states, where the property is much sub-divided and the system of small farming prevails, the population is kept down by law, which prevents marriage taking place under a certain age, or till the parties have reasonable means of subsistence; in other states, as in Prussia for instance, the institutions which compel every able-bodied man to serve for several years in the army, at a time of life at which imprudent marriages generally take place, are considered a full equivalent, in effect on population, for the legal restrictions of the other states; and the same remarks apply also, I believe, to the military system of France. The consequence of this is, that the population of those countries increase in no greater degree, probably, than does the produce from the land, both being pretty nearly at a standstill, apparently, or progressing but slowly. But it is quite certain that such an interference with the social liberty of the subject as I have here referred to, with a view to restrain the growth of our rapidly increasing population, would not be tolerated in this country for a moment; and, consequently, the land question becomes of the most vital consequence to us. Mill observes, in his great work on the "Principles of Political Economy," that, "whenever population is not kept down by the prudence either of individuals or of the state, it is kept down by starvation or disease." No more striking example of the truth of this statement can be afforded than in the case of Ireland, where, as we all know, the population went on increasing without restraint, the land became subdivided between the increasing families, and one of the most terrible famines on record was the result. My principal reason for referring to this, however, is to point out the fact that, where the subdivision of the land is carried out to a great extent, and no impediment exists to the natural increase of the population, the state must, and do interfere and lay down certain rules regulating the occupation of the land; and I feel convinced

that at no distant day a land bill will become as necessary in England, as the noble measure of justice, which has become law this year, was found to be necessary for Ireland. Having shown how momentous a matter is the question of the land occupation in this country, I shall now call your attention to the condition of the occupiers of small farms, both as proprietors and as tenants, with the state of the agricultural labourers in large farm districts; and I am happy to find that a great deal of most valuable information has been collected by the royal commissioners on the employment of children, young persons, and women in agriculture, which throws considerable light on this part of our subject, and to which I must allude. I will first refer to Mr. H. Tremenhare's report on the counties of Cumberland and Westmoreland, where there is a predominance of small farms, and farmed, too, by the owners themselves, known in these counties from time immemorial as statesmen or estatesmen. The assistant commissioner says of them that, "excepting on the land of some of the larger proprietors, the farming of the statesmen is generally bad. There is little spirit of improvement in the class. If they possess a little money they prefer hoarding it in their oaken chests to laying it out on the land. 'Would you not,' was inquired of an old statesman, 'expend a shilling on your property if it would eventually return you five shillings?' 'No: I would rather button it up in my breeches' pocket; it would be safer there,' was the reply. The roads leading to their homesteads are generally so bad, that it has been said that the only safe mode of reaching them would be by a balloon. The midden or dung-pile is close to the door of the dwelling-house; the land, generally undrained, is prolific of rushes, and the whole appearance of the property denotes poverty, slovenliness, and neglect. Bailey and Culley, when they visited Cumberland, early in the present century, were struck with the impoverished condition of the small statesman, and the condemnation then pronounced on their management I have seen nothing to induce me to consider as inapplicable to the present day: "These men," they say, "seem to inherit with the estates of their ancestors their notions of cultivating them, and are almost as much attached to the one as to the other." "I heard," continues the assistant commissioner, "of several of the smaller statesmen who, finding it impossible with their limited capital to make a living out of their land, sold it and became tenants of the very farm which as owners they had vainly endeavoured to cultivate with profit. In one case a small statesman who had become embarrassed sold his property to a neighbour, who took the estate into his own hands, and employed the former proprietor as his hind; and in a very short time the land, under improved management, was made to yield double its former produce. At best these small proprietors have to struggle hard for a subsistence, and small statesmen of from £50 to £70 a year are obliged to work harder and longer than any labourer would consent to do for the highest wages that could be offered to him." Mr. Tremenhare then goes on to speak of the state of the children of those proprietors; "the effect," he says, "of these small properties on the children of their owners is not favourable, for they are often kept from school for months to assist in the work of the farm. On inquiring of one at what age his children began to assist in the farm work," "as soon as they could crawl" was the reply; and I believe I am correct in stating that as a rule, the children of the smaller proprietors feel the disadvantages of a neglected education through life, and do not prosper in the world so well as those of agricultural labourers." And he concludes that, "If it is important that the soil should be cultivated with the maximum effect the small statesmen of these counties certainly do not satisfy that desideratum; half shepherds, half husbandmen, they are deficient in the spirit and enterprise which agriculture requires, and they are without either capital or skill. In the districts where tillage prevails they are singularly out of place. In small sheep and dairy farms they have a more legitimate occupation, and they will probably linger long in the secluded mountain dales, a remnant of that community of small proprietors, whose simple manners and sturdy independence have long given to this part of England one of its most marked characteristics." I have not hesitated to give this extract from the reports of the royal commissioners, because the information was so recently collected by the assistant commissioner on the spot, and doubtless under a due sense of the responsibility that was attached to the important office he filled.

You will not fail to notice that these statesmen of Cumberland and Westmoreland are the proprietors as well as occupiers of the land, the very position that is considered by the advocates of the small-farm system, to be most favourable to its success. But the most conclusive evidence against the system is the fact that the number of small holdings is rapidly diminishing, and have been continually diminishing for many years past; if the small farm system was at all successful or advantageous to the community, it is quite certain that the number of small farms would increase instead of diminish. But the real fact of the matter is that the profession of small farming does not generally answer in practice in this country, and the occupiers, whether they are the owners also, or not, have found it much more to their interest to work as ordinary farm labourers for regular weekly wages, than continue in the occupation of such small farms as those of ten or twenty acres in extent. I might give you abundant evidence of the truth of this statement from all parts of the country; thus, at Burbage, in Wilts, Mr. C. G. Bolam, agent to Lord Ailesbury, stated to one of the assistant commissioners that "there are a number of small accommodation holdings of from 2 or 3 to 20 and 30 acres at Burbage. The land being very rich and productive, the tenants are enabled to raise good crops at a comparatively small outlay. They pay an accommodation rent for these lands, and make a livelihood by growing vegetables, seed, &c., and making milk and butter for the markets. They are, as a body, almost worse off than many of the labourers; their capital is small; their work very fitful, at times very hard, at others very slack. The result of these intervals of comparative ease is too often the formation of vicious habits, and their want of education and training prevents them from profiting by the start beyond the ordinary farm labourer." This view is also confirmed by the vicar of Burbage, Archdeacon Stanton, who says of these men that "he does not think that they are as well off as many who work regularly as day-labourers. If they get an unusually good crop they become extravagant; they don't save; and suffer from want during the winter when no work is to be had." The commission found also an universal concurrence of opinion that the state of education among small farmers was even worse than among the ordinary farm labourers. Thus, if we go into Devonshire we find it stated that "the children in the Union are better educated than many farmers' sons. The will for education is not wanting among the farmers, but they have no capital, and are obliged to keep their lads at home to work on the farm." Again, at Heckfield, in Hants, it is stated "that the children of small farmers are worse off for education than those of labourers." If we turn again to Wales, the same features present themselves; thus the commissioners state that "the system of small farms (of from 10 to 50 acres), in its bearing upon the best interests of the occupier, his children, and the community at large, receives much illustration in the evidence relating to it in Wales. "There can be no doubt," the report continues, "that in Wales, as in England, according to the evidence, the small farmer lives harder, employs his children earlier, and gives them less education than the ordinary agricultural labourer. And in regard to the result of small farms on the produce of the land, the evidence entirely confirms the opinion expressed by Mr. Culley in a former report, that 'it is impossible for agriculture to make any decided advance in a district where the holdings are so small as to make it unprofitable for the occupier to employ the ordinary mechanical aids which increase the produce of the farm at the same time that they lessen the cost of production.' The agent to the Earl of Cawdor winds up his evidence by declaring that if the landowners of Wales do not merge their small holdings and make them more attractive to men of capital and enterprise, *"the country must remain as at present, very little advanced from a state of nature as regards farming"*. And Mr. Boyle, writing of Monmouthshire, says, "it sounds very well at first, that every labourer should have his own little holding, but it too often ends in his only making use of it to borrow money which he can never repay." Now, I believe the evidence which I have given, and which is only a very small portion of what I have collected, all to the same effect, embodies the opinions of every practical farmer in the kingdom; but I have preferred giving the opinions of those who are prosecuting, under the direction of the State, a most important inquiry on matters relating to the agricultural interest, and who could not possibly have the least bias on

this question. In the large farm districts we are met with the fact that, a large increase has taken place during the last 25 or 30 years in the rate of wages; thus in Wiltshire, Messrs. Rawlence and Squarey give it as their opinion that the wages of young unmarried men have increased about 40 per cent., and those of older men about 10 or 12: the difference being attributed to the fact that married men are less disposed to move than unmarried men, and are content with a smaller sum as an inducement to remain in one place. If we turn again to another part of the country, we find that Mr. Stanhope ascertained in the northern part of the great wold district of Lincolnshire, where the farms run mostly from 800 to 1,000 acres and upwards in extent, that "the work is plentiful and certain, and the wages high, and the labourers having this are not inclined to leave the place." Their wives he says "are too well off to work." These facts may be allowed to speak for themselves, I think; but as a rule, under our system of large farms, it is beyond a doubt the fact that, a good, honest, and industrious labourer seldom or never wants for work at good wages. Before I have done with the state of the labourers, however, I may perhaps mention that, in a letter to me some two or three years ago, Mr. J. S. Mill referred to the exorbitant price which the agricultural labourer had to pay for many of the necessities of life in country villages, "a thralldom from which," he said, "only co-operative stores could relieve him." I can hardly go into the question of co-operative societies here, and of the difficulties, insuperable I think, which would attend their introduction into agricultural districts; but I may mention the course which has been successfully pursued in this matter by a Wiltshire farmer, who farms between 1,500 and 2,000 acres of land. He found when he entered on his farm that his labourers were paying considerably more than they ought for almost every article of consumption which they required; he therefore determined upon purchasing these things at the wholesale rate himself, and he placed a reliable person to sell it to his workpeople at a price that just cleared the original cost and expenses, and they are highly pleased with the change, which has proved a very great advantage to them; it has no affinity to the truck system, as the labourers are all paid their wages in money; but they are only too glad to get their wants supplied at the reduced price at which they are offered to them at the shop provided by their master. It will be seen, therefore, that a remedy for the exorbitant prices which the agricultural labourers are charged for things in some districts, can be provided by large farmers following the example I have given, which the small farmer could not do. In fact, the small farmer takes little or no interest in the condition of the labourers, for he only occasionally employs them at all. I now approach another most important part of our subject, viz., the advantages which the large farm system is, and has been, to the country generally. Here, again, the evidence is almost wholly in favour of large farms. Where can we find, in any part of the kingdom, any considerable quantity of naturally poor land brought into a state of fertility but by large farmers, men of capital and enterprise? These are the men who, by the aid of the best mechanical appliances, have accomplished this, and created quite a revolution in British agriculture, principally by the large use of artificial food and manures, aids which the small farmer, I believe, avails himself but very little of. When driving through a part of South Wiltshire lately, I passed through a large farm where two powerful steam engines were at work with the cultivator, and smashing up the stubbles in beautiful style; the very next farm was in a most discreditable state, and, on my enquiring of a friend the cause of this, his reply was, that "it was a small farm, and the occupier had not the means to do it;" it was some of the best land, however, but the result was as I have just stated. And I believe, as a rule, this is the general experience with small farms, especially in tillage, and particularly where the land is not *naturally* fertile: in such districts the evidence is conclusive, that only by men of capital, or (I must add since the meeting of the Royal Agricultural Society this year at Oxford) ladies of capital, can such land be successfully farmed. The power which the large farmer can bring to bear on any of the operations of the farm is an immense advantage. The fickleness of the climate, too, in this country gives a great advantage to the large farmer, who, by concentrating his power, can take advantage of the most favourable opportunity to perform, in an expeditious manner,

the most important operations in agriculture. All in this assembly are aware of the success which has attended the introduction of steam-power as applied to the cultivation of our clay soils in different parts of the country, one of the latest and most successful examples of which is that of Mr. John Prout, at Sawbridgeworth, an interesting account of whose proceedings lately appeared in the *Times*. Now I hold it to be quite impossible for steam cultivation to be used successfully under the small farm system; this, I believe, no practical man will be found to deny. But it is asserted by the advocates of the small farm system, who, it is perhaps needless to say, are not practical farmers, "that machinery may be hired round by co-operative freeholders with more economy than if employed for only on a single farm." My answer to this is, that while the machinery was travelling about from one farm to another, and taking it up and setting it down, the whole work might be done on a large farm by the farmer who has the machinery and the labour at hand to work it. There are many other points well worth referring to under this part of our subject, but, in order to bring the length of this paper within proper limits, I must leave them for the members of this Club to deal with in the subsequent discussion, where they will be sure to be brought out with much greater effect. I have merely touched upon those points that appeared to me of the greatest consideration, and for you to enlarge more fully upon. But, gentlemen, I must confess to you that, in pursuing my inquiries into the merits of the two systems of large and small farming, I much regret that I have been compelled to say so little in favour of the system of small farms. I wish it to be particularly remembered, however, that I have been hitherto treating of the question from its general aspect; but there is no rule without an exception, and I am now about to speak of an exception to the rule. The impossibility of an industrious and thrifty labourer rising to the position of a farmer has been referred to as against the system of large farms; and I am quite sure that no large farmer can be found who would not be most happy to see the agricultural labourer raise himself to that position if by doing so he would benefit his condition. But he could not hope to obtain that position unless he had the opportunity of doing so by entering on small farms at the outset. There is, however, the plan of letting plots of land, that is suitable for the purpose, to the most careful and industrious of labouring families, for the purpose of keeping a cow or two, a plan that has answered well in many places, and which I have no hesitation in commending; for, besides the advantage it gives the labourer of improving his position, I know that one or two cows kept properly by themselves will yield more milk than if they were in a herd of 40 or 50 cows; and the system, as I just said, has been found to answer very well in practice. But this has not been the case where a man with two or three cows has been tempted to do nothing else; thus, in Derbyshire, Mr. Cottingham, agent to the Duke of Devonshire, says that "a man with an allotment of, say 10 acres, to keep a couple of cows, is better off than the holder of 20 or 30 acres or a farm just big enough to tempt him to do nothing but work on the farm. I reduced one man," he said, "to 10 acres from 20, to compel him to work; and he afterwards told me I had made a gentleman of him." I could give a great deal more evidence of a similar character; but to sum up this matter, I fully endorse the statement of Mr. Culley, to whom I have before referred, "that where a farm or allotment of five or six acres is of such a character as to enable a man to keep one or two cows without withdrawing him from his legitimate occupation as a farm labourer, there is the same evidence in Wales as he found in Derbyshire, that the charge of the little dairy is a much better occupation for his wife than ordinary field-work, or, indeed, than any other work he had seen labourers' wives engaged in." Of course, in commending this system, I am assuming that the cows are managed by the most careful and thrifty persons. To suppose that it would be successfully carried on by the *generality* of our labouring families would be a very great mistake indeed. But under our *laissez faire* or non-interference principle farms of all sizes will not be wanting, and I hold that there is no necessity in this country to depart from this rule, as the question of the size of farms has satisfactorily regulated itself to the present time, according to the requirements of the community. You will have observed that I have been hitherto speaking of the two systems of large and small farming; but by far the greater number of tenant

farmers in this country are in the occupation of comparatively small or moderate-sized farms, and it is to these I now wish shortly to direct your attention. But I am sorry that I cannot give you as much official data respecting the numbers of the occupiers of different classes of farms as I could wish; the official statistics do not afford the desired information, nor, indeed, as much as they might very easily afford: they give, however, the average extent of land returned by each occupier in England as about sixty acres. But the returns are probably from every one that keeps a pig or a horse, as well as from market gardeners, &c., and therefore we can only approximately arrive at the average size of farms in this country; but I think we shall be correct in assuming that the great bulk of tenant farmers are in the occupation of only small or moderate-sized farms, as in Ireland the greater number are in the occupation of only small plots of land. I have already shown the great advantage which the large farmer has over the small one in carrying out the different operations of the farm. This advantage he possesses over the moderate-sized farmer, but in a less degree; the one who can afford to employ the best mechanical aids, and having sufficient labourers to properly apportion over the different branches of farming operations, and so to bring the whole into a regular working system, is in the best position to develop to the fullest extent the resources of the soil. But I must not be understood to say that moderate-sized farmers cannot farm successfully; we have abundant evidence that by the exercise of the greatest industry and zeal this is done, yet his position at the present time is most unsatisfactory. But it is not from a lack of mechanical aids, or from any inability to perform in a proper manner the ordinary operations of the farm, that the position of farmers occupying comparatively small or moderate-sized farms is rapidly becoming intolerable; it is arising from an excessive competition for land, precisely the same cause that brought the Irish land question to a crisis, and, I believe, will inevitably bring the land question to a crisis in this country also, if nothing is done in time to counteract the evil effects of it. I consider the land question in England at the present moment may be fairly represented in this way: The occupier of a farm of such a size as to require from £8,000 to £10,000 of capital to work it, may be said to be on the whole in a position to take care of himself; that is to say, there is no necessity at present for the Legislature to interfere in his behalf; the occupier of a farm that requires from £3,000 to £5,000 of capital, would, from the greater demand there is for such farms, give somewhat more than the real value of it rather than leave it for the chance of getting another such a holding; the occupiers of farms that require but from £1,000 to £2,000 of capital—these being the most numerous, as I have said, and the class I am now directing your especial attention to—would submit to any extortion almost, rather than leave their farm, as there are 30 or 40 applicants, as a rule, for every farm of this size that comes into the market, and a tenant leaving would have but the thirtieth or fortieth part of a chance of getting another such a holding. I am assuming, of course, that the land is really useful land and not unduly encumbered with game, or other serious drawback attached to it. Now, this is a state of things which some of the owners of these moderate-sized farms are not slow to take advantage of; in some cases, to my knowledge, the most undue advantage, I am sorry to say, has been taken of the occupiers of these comparatively small-sized farms, solely in consequence of the extreme competition that at present exists for such holdings. But why farms should be of more *real* value, solely because farmers multiply and must live, and farms do not multiply, I am at a loss to understand. In the county of Somersetshire, where the moderate-sized farms to which I am now referring largely prevail, the competition is something enormous, and we are beginning to hear of the loathsome system of offering bribes to agents to get farms, and in one case, that has recently cropped up, an agent is greatly belied if he didn't accept a bribe of £100 from an in-going tenant, for whom he got the farm, and that too, with the owner's knowledge. Judge Longfield, in his essay on the Land Tenure of Ireland, says that the highest offers for farms "will be generally made by the poorest farmers," and also that "the real grievance was that the rent was so high as to reduce the tenant to indolent apathetic despair." Now, I fear that on some estates in Somersetshire the tenants are being almost driven to the same state. A case has lately come under my own knowledge, upon undoubted authority, which I trust you will permit me to

mention. The owner, or the solicitor rather, of an estate in five farms, and occupied by five tenants, at a rental of over £2,500 a-year in the aggregate, determined to raise the rents again last year: they had been raised about 15 per cent. not many years before, and the mode of proceeding adopted was this; a tenant was served on the 24th of March with a notice to quit at the Michaelmas following. But he was told that he was merely served for the purpose of an increase of rent; but what this increase was to be he was not told, nor could he ascertain till two or three out of the six months' notice had expired, and the opportunity of taking another farm was lost, when he was informed that the rise this time was *only* to be 7½ per cent.—and this he was obliged to submit to or leave. Having no chance of taking another suitable farm, he submitted, as did the other four tenants also. But this year one of these five tenants has succeeded in getting another farm; a second has tried to do the same; the third has died; the fourth has been lately taken to a lunatic-asylum; and the fifth declares that he would not remain but for special reasons, which I need not refer to. All these five tenants have, I am told, been in the occupation of their farms, with their relatives before them, for a half century each. The only excuse put forward for increasing the rents in this case was the necessities of the owner; the question of the *value* of the farms was not considered at all. Now will anyone tell me that such acts as these will tend to the ultimate advantage of the landowners in this country? I think not; and if land-courts were to be established in England (as they are about to be in Ireland), where tenants may appeal in cases of extortion and injustice, I believe it would be one of the most conservative measures that could be passed. I am perfectly well aware that the great proportion of the land in this country is held by just and generous landlords; they have nothing to fear from the passing into law of an act that shall enforce throughout the country something like their own fair and just dealings; but they have everything to fear from extortionate landowners, or unscrupulous lawyers, who may have the management of large estates that have, through losses in the betting-ring probably, become heavily encumbered. These are the persons who will bring the land-question to a crisis in this country. Nor is it necessary that cases of hardship should become general before it would be the duty of the legislature to interfere. His Grace the Duke of Richmond, in his speech on the second reading of the Irish Land Bill, said that "In the case of any body of people, however small, having injury inflicted upon them, he considered it to be the duty of Parliament to endeavour to find some remedy for it." I consider that it is to the eternal disgrace of the different governments of this country that the people of Ireland had to pass through the horrors of a famine, and were brought to the verge of a revolution before the land-question was honestly taken in hand and justice done to it; with our reformed Parliament let us hope that no Government will be permitted to exist that will allow it to come to such a pass in this country before applying a remedy. I do not for one moment dispute the fact that landlords have at present the legal right to exact the utmost farthing of rent that they possibly can for their land in England; but I deny the justice or the prudence of their doing so, for it will inevitably create—as, indeed, it has already created on many estates—a discontented body of tenantry. The competition principle has had the fullest latitude in Ireland, the custom of payment for good-will which there prevails being essentially a commercial transaction, governed by supply and demand; but whether it is paid in good-will or in the shape of rent matters nothing. We have seen the result of all this in Ireland, and it needs no prophet to foretell that the same cause, if allowed full scope, will lead to the same result in England. Let us hope that this will not be the case; but that a wise legislature will see the danger in time and apply the remedy, which will assuredly increase that good feeling that is so much to be desired between the owners and the occupiers of the soil of this country, and be for the lasting advantage of both classes, and of the greatest possible benefit to the teeming millions who inhabit this great nation.

Mr. C. S. READ, M.P., said he went fully with Mr. Trask on some points of the Irish Land Bill; but there was such a thing as doing justice to the tenant, at the expense of the landlord; and he believed that the Irish Land Bill had not exactly drawn the line in the way that English

tenant-farmers would have done if they had been consulted about the matter (Hear, hear). He was glad that the introducers of the subject had not gone very much into foreign farming. He had been rather afraid that they would be overdosed with that topic. He considered that the question of continental farming, as regarded its applicability to England, was entirely exhausted by the able paper of Mr. Howard, the chairman of the year, some time ago, and by the admirable article which appeared in the first number of the Royal Agricultural Society's *Journal* for this year. If they took the case of France, they found that the average production of wheat per acre was barely half what was grown in England, and only just what Mr. Lawes's unmanured plot had yielded for five-and-twenty years. That, he thought, dismissed the case of France, which had sometimes been held up as an example for this country to follow. On the other hand, if they took the evidence of Mr. Jenkins and Professor Voelcker, they found that, with all the ingenuity and all the saving of an intelligent people like the inhabitants of Belgium, the earnings of small farmers were somewhat less than those of our own agricultural labourers (Hear, hear). He maintained, therefore, that the example of France and Belgium ought not to be followed in this country. He thought that it might be laid down as a principle that some districts were specially adapted for large farms, and other districts for small ones (Hear, hear); but he had never yet seen the district which should be all large farms, or the one which should be all small farms (Hear, hear). In his opinion there should always be, even in a county like Norfolk, where the soil was naturally light and porous, and fitted for arable cultivation, and could only be profitably farmed—he did not know, indeed, how farming could now be carried on profitably anywhere (Hear, hear)—through the application of a considerable amount of capital to cultivation; he said that even there there ought to be a few small farms, by which a struggling persevering man might rise above the condition of a farm-labourer. They all knew that there were people in the world who by saving and toil, and intelligence would be almost sure to rise if they had a chance, and on no account should the first stave of the ladder be taken from them (Hear, hear). As he had before remarked in that room, the small farmer who really flourished was a man who would do the work of two labourers, and live at the expense of one (Hear, hear). If they went through a county like Norfolk, or any other where there were large arable farms, he ventured to say the moment they came to a village where there was a whole lot of small farms, they would at once see a difference in the cultivation. Moreover, agricultural labourers were better paid and more constantly employed on large farms than they could possibly be on small ones. There were, however, some articles of produce which were particularly suited for small farms and just now were particularly remunerative; and, looking at the price of milk, butter, eggs, and poultry, he must say that in his opinion they could be produced cheaper and better upon small farms than upon large ones. Therefore, he said, there was room both for large and for small farmers, and, even in a county where the soil was naturally light, he should be very sorry indeed to see the small occupier obliterated from the face of the earth.

Mr. G. SMYTHIES (Marlow Lodge, Leintwardine) said: Coming as he did from a district where there were a great many small freeholds, he wished to state the result of his experience with regard to small farms. In the adjoining county to his, in the county of Radnor, almost the whole of the land was divided into small freeholds, which were, for the most part, let by the owners, who rented large farms in neighbouring counties, thereby showing their appreciation of the difference between a large and a small occupation. Those persons did not, as a rule, make anything like good landlords; on the contrary, although they were tenant-farmers themselves in other counties, they did not seem to appreciate the difficulties which tenants had to contend with, and, for the most part, they were hard landlords. The occupiers of small farms were inferior employers of labourers and others, because they only wanted labourers at periods of the year when they could get abundance of work. They employed labourers, if they could get them, in summer and in harvest; but all the rest of the year, when it might be a boon to employ them, they discarded labourers altogether. Further, both the owners and occupiers of these

small freeholds were very inferior to large owners and occupiers as regarded subscriptions for the repairs of a church, the building of a school, or any other public work which was required in the neighbourhood. He could corroborate the statement of Mr. Trask, that, as a rule, the children of those small occupiers were worse educated than the children of labourers, being employed on the farm as soon as they were able to do any work. If such farmers had by accident any good stock of calves or lambs they were almost entirely indebted for it to their neighbours, being quite unable to purchase male animals of the best kind. He agreed, however, with Mr. Read, that it was desirable that a man who was able to push his way should be able to obtain a small farm, but he did not know any other recommendation that the small farm system had. The experience of which he had spoken was obtained in Herefordshire. He formerly lived in Lancashire, and in that case the opinion which he had expressed did not apply. There the small farms were, in fact, market gardens for the sale of produce which could not be supplied in any other way, and therefore small farms were extremely valuable. Indeed he did not see any objection to the whole of that country being divided into small farms. He did not think large farmers had any business there, and he must say that he felt out of his element. It would not do, he thought, to lay down any hard-and-fast line; but, on the other hand, although there were some counties where small farms would do well, taking a view of the whole country they seemed to be very objectionable (Hear, hear).

Mr. C. PAGET (Buddington, Nottinghamshire) said he had not the slightest intention of speaking on that subject when he entered the room. He had read many good papers which were delivered before the Farmers' Club; being in London he determined to hear the discussion on that subject; and he would now make a few remarks which were not at all prepared. He had been struck with the truth of the observation that between different localities there might with advantage be differences as regarded the size of farms. He lived in a district which was something like half-way between the east and the west, which were represented by the reader of the paper and by the gentleman who had just sat down—a district which bordered on the one side on land which must consist of large farms, if it were to be occupied profitably, and on the other on land which might be usefully occupied in dairy farms—and his experience tended to contradict some of the observations which were made by both those gentlemen. In the first place he must say that the small farmers of the village in which he lived were cultivating their land as well—he knew that he was speaking in the presence of very good farmers—as any farmer in England. The soil was free from twitch; it yielded from six to seven quarters of wheat per acre and from twenty-four to forty tons per acre of mangel-wurzel; and yet it was occupied by men who rented only from ten or fifteen up to fifty acres. He had on his estates five tenants who had all been labouring men—some of them on his own farm. They had been saving men, and having begun with a small farm they had added to their means, until the poorest man among them must be well worth £500. No doubt that resulted in a great measure from the character of the land, which was partly arable land and partly very good grass land. He had nineteen tenants, who had on the average thirteen acres a-piece, and not one of them—he would call Mr. Read's special attention to this fact—not one of them worked as a labourer on another farm. Formerly the system existed of letting to labourers a small lot of land in order that they might keep a cow; but farmers were most unwilling to employ them, and consequently the result was unsatisfactory. The time when farmers most wanted them was that at which they most required to work for themselves. In place of such persons there was now a class of men who had a small piece of arable land, and, what was most essential, there was attached to it a piece of grass-land. That system worked exceedingly well, and the difficulties to which he had alluded did not arise. Perhaps one or two of the number would keep horses instead of cows, and do the horse-work for their neighbours for hire, and that was found a convenient arrangement. The cattle had very much improved in consequence of the combination with arable land of a certain amount of grass-land, the effect being that there was a sufficient amount of roots and straw to carry them through the winter. When he first began to direct his atten-

tion to farming matters, now nearly fifty years ago, he had twelve to fifteen neighbours who were yeomen farmers, that is, men occupying their own land; but they very soon discovered that whereas they could only get 3 per cent. for their land in the shape of rent, they could obtain 10 per cent. as a return for capital, and the consequence was that one after another sold their land, and they had now become considerable farmers. One man, for example, had land consisting of 70 or 80 acres, which he sold for about £6,000. He afterwards took a farm of 600 acres, and became one of the first farmers in the district. In that way such small properties had been disposed of, with very great advantage to small occupiers and to the country at large. The owners of such properties were not in a position to effect the requisite improvements, and he had no hesitation in saying that, since the land was purchased by large proprietors its value had been increased 50 per cent. by means of improvements. He spent a large portion of the last ten years in Hungary, and notwithstanding Mr. Read's deprecation of any allusion to foreign cultivation, he wished to say a word or two in reference to what he had learnt there. Under the former system of holding the owner did not pay any money for the work which was done on his land, but he got as much as if he did receive it, the tenants working for him with their ploughs, their oxen, and their own hands, and doing a specified amount of work. There were disturbances in the country under that system, and in consequence the government declared that every tenant should be the owner of the land without performing any duties whatever. The effect of that was that these men, almost all, ceased to work at all. They formed drinking habits, and it was not till a considerable number of them had absolutely sold their properties to those among them who were saving and thriving that there was any considerable amount of produce obtained from the land. What he wished to call special attention to was the effect of that state of things on labourers. The owners had no capital to employ labourers during the winter months, and the consequence was that the labourers mortgaged their next year's work to Jews or usurers for half its value. They never had a harvest, and they were in a state of very great misery. He hoped, therefore, that they would never see adopted in England a system of having very small proprietors occupying land all over the country; while, on the other hand, he thought that, if a number of tenants had small plots of land which were highly improved by the landlord, they would prove a great advantage to the country.

Mr. MECHI (Titree) said, the object of that discussion seemed to be to show what sized farms were the best; but, in his opinion, they might as well attempt to decide whether it was best that there should be large manufactories or small ones, large traders or small traders (Hear, hear). The question was one of capital. Seventy years ago this kingdom comprised 10 millions of people with 45 million acres of land, a large proportion of which was in a comparatively primitive state as regards cultivation. Now the population was 30 millions, and agriculture was in an entirely different position from which it was at the beginning of the century in consequence of the employment of steam power, increased facilities for communication, and other improvements. But, notwithstanding all these improvements, it was still true that capital was created, as it always had been, by mental and physical superiority, and that with the accompaniments of care and frugality, individuals would be enabled to rise from the lowest ranks to a comparatively high position. That applied just as much to farming as to trade, and therefore it would be quite wrong to recommend any particular size of farms as preferable to any other size; such things regulated themselves, and ought not to be subject to Acts of Parliament. Men connected with agriculture, who possessed brains, and whose conduct was marked by frugality and economy, must in many cases rise and become large farmers. No doubt landowners having large estates would generally prefer having large farms. The question was, how much capital per acre a man could employ in the land? They were not yet agreed as to what amount per acre should be employed. He thought that farms could never be too large if the occupier had got £20 an acre, and that they could never be too small if he had got that (laughter). At present the average amount of the tenant's capital was, he believed, only £5 an acre, so that there was a very large margin for improvement. There could be no doubt that the size of farms, whether they were large or small, should lend a due propor-

tion to the amount of acreable capital to be invested. He thought they would all gradually come to the conclusion that more capital should be employed per acre. It was impossible to walk into the great showyard at Islington without thinking that, with the enormous amount of machinery that has to be employed, and the great cost of artificial manures for the land, and of artificial food for cattle, it was necessary that a larger amount of capital should be generally employed, and in proportion as a conviction of this spread among landlords and tenants, the system of farming must undergo a change. Tenants could not be expected to make the requisite outlay for draining and building, and agriculturists must look to the steward, and those talented men who managed large estates, to enforce enlightened and advanced views of the duties of landlords as well as those of tenants. In the City of London he (Mr. Mechi) had seen many men rise from the little shop to the large warehouse, and he agreed with preceding speakers, that in agriculture as well as in trade there should always be an opening for industrious men. Let no one run away with the notion that that Club thought that the 45 millions of acres in this country should all be cut out, as it were, in such large slices, that there would be no room or opportunity for a man of small capital to rise (Hear, hear).

Mr. JOHN THOMAS (Bletsoe, Beds) said a great deal had been made of the discrepancies in the remarks made in that club, and perhaps that would be the case with regard to this discussion upon large and small farms. Mr. Smythies had told them in effect that in Herefordshire large farms were preferable to small ones, while other gentlemen had praised small farms. The truth appeared to be that in Nottinghamshire, Lancashire, and other counties where there was a very large town population, small farms answered very well, and that in other districts they were not good either for the landlord, occupier, or the labourer. When there was a superabundance of labour it was the large farmers who took it up, and as more capital was employed on such farms, the public derived some benefit from the extra outlay. He considered the Club much indebted to Mr. Trask for his able paper; and, for his own part, he entirely concurred in the views expressed by that gentleman.

Mr. J. WELLS (Booth Ferry House, Howden) said, having had considerable experience in landed pursuits for many years, he must say that it was an advantage in a national point of view as regarded the cheap production of food, that farms should generally be large. Small farms involved a number of small inclosures, with fences and ditches, and a consequent accumulation of weeds and rubbish, harbour for vermin, labour in dressing and cleaning, waste of ground, and prevention of that free current of air so advantageous to the crops when approaching maturity. He should be very sorry to see the time when small farmers would entirely cease to exist, or when a man of small means would not be able to rise in farming pursuits; but that was not a question affecting merely individual interests, it concerned the nation, and in a national point of view he was in favour of moderately large holdings. A great deal had been said about a labouring man having an opportunity of rising; but in his opinion the advantage to the labourer being employed all the year was equally important. In his system of farming he never allowed a man who worked for him in summer to want a day's labour in winter, and consequently he generally got through his harvest operations without extra men. He never went over any farm without finding something might be done in the way of cropping a hedge, carting off a ditch side or levelling, that would pay in the end, while in that way many a man was prevented from suffering with his family in winter. He was surprised to hear any one speak of an expenditure of capital yielding no return, and he could not help thinking that the case mentioned was quite exceptional. He had laid out large sums in the improvement of lands, but he never knew an instance, where the outlay had been judicious, that it had not ultimately proved remunerative.

Mr. HENRY NEILD (Lancashire) thought that in dealing with such a question as the size of farms they should always take into account the situation or position of the county where situated. It would be perfectly fallacious to lay down any rule or principle in that respect as if it were applicable to the whole country. In the north they had been taught that supply and demand regulated almost everything. In Lancashire and Cheshire improved machinery in cotton manufactures had provided at half the cost what was formerly supplied

by handloom weaving; and the principle involved in this question was similar. He believed that if the farming produce of Lancashire were compared with that of any other county it would be found to bear the comparison exceedingly well, and that was chiefly under a system of small farms. It was in his opinion desirable to have in this country a mixture of large and small farms. In Lancashire and Cheshire they could not do without small farms. The dairy produce to which Mr. Read had referred, butter, eggs, and poultry had there yielded a fair profit, and he thought it would be well if even many large farmers turned their attention to such matters, as it was rather a reflection upon English farmers that this country had to import so much dairy produce (Hear, hear). In the area of the Manchester and Liverpool agricultural societies they had a test by which they could find out who were the best cultivators, by a scale of prizes for root crops and cultivation. In a farm of 200 acres a certain proportion, perhaps quarter, ought to be under root cultivation, which was the foundation of agriculture. Small farms could be named that produced an astonishing quantity of roots, and this year there had been obtained as many as 40 tons per acre of mangold wurtzel. He thought no absolute rule could be laid down as regarded the size of farms. Different counties must be farmed according to their own circumstances, and if things were left to their natural course that would no doubt regulate the matter. In his opinion it would be a deplorable day for England if any legislation should interfere with the natural course of agriculture (cheers). No doubt there was a great deal in what had been said about some landlords taking advantage of competition, for farmers to act unjustly towards their tenants, and if such things went on, or were general, it might become necessary to introduce a bill into parliament; but he believed there was no danger of that, and for the honour of England's aristocracy he deprecated any legislation in such matters (cheers).

Mr. EDMUNDS (Rugby) said he had risen merely to ask the Farmers' Club whether they really thought for one moment that England required an Irish Land Bill? (Hear, hear.) He believed that no such absurdity was ever started (cheers). The Irish serfs were shooting down the landlords and land agents; agrarian outrages prevailed throughout the land, and under such circumstances it was necessary that there should be some legislation; but such legislation was not necessary in the case of a more civilised land. That was the only part of Mr. Trask's paper from which he dissented. As regarded the size of farms, he would ask, what did gentlemen mean by a small farm and what by a large one? They had been told that evening about the farming of plots of 13 acres. That was not farming, but spade cultivation (Hear, hear). He agreed with Mr. Read in deprecating allusions to the Continent. As to Flanders, he would ask whether our labourers would be satisfied with Flemish eating and Flemish drinking? (laughter.) It was impossible to carry out such a system here, and he for one had no wish to see in England a race of peasant proprietors, cultivating 15 or 20 acres of land. In Warwickshire the average size of farms was only from 200 to 250 acres, so that the occupations were comparatively small; but, depend upon it, that if, as regarded any part of the country, there were any attempts to interfere with free contract between man and man, that would be a great mistake. Fancy a person saying to a Warwickshire farmer: The Norfolk farmers occupy a thousand acres of land, and therefore you ought to occupy as many; and you must find the requisite capital! The less they had of centralisation or of government interference with the ordinary transactions between man and man the better (Hear, hear).

The REV. E. SMYTHIES (Hathern Rectory, Loughborough) said one point that had not been touched upon that evening appeared to him of vital importance; he meant that there were certain qualities of land which were very well adapted for small farms, and quite unsuited for large ones. He was surrounded in a strong-land district by men who cultivated 30, 40, or 50 acres of land on separate farms. What was the consequence? Why, that in cases in which four or even six horses were required, the occupier tried to manage with two. And on such a system the land got more and more foul year after year, until it could hardly be cultivated with profit any longer. On some light land, a man might do very well with two horses; while with the same amount of horse-power, strong-land could not possibly be kept clean. He fully en-

dorsed the principle laid down that evening that it would not do to stand by any hard-and-fast line; but he maintained that strong-land was utterly unsuitable for small farms. As regarded dairy-farms, no doubt men with a very small acreage could produce milk, butter, and even cheese with advantage; but he knew men on farms of a different kind, who laboured from early morning until night, and were only just able to pay their rent. In such matters they could not perhaps be guided entirely by rules of political economy; but if men who had saved a little money, wished to engage in farming, it would perhaps be better for a few of them to unite to take a farm of 200 or 250 acres instead of each having 50. He was perfectly well aware of the difficulty of getting men to work together for the purpose of cultivating the soil; but the proper course would be to elect a captain (Laughter).

Mr. W. BROWN (Tring) said, that if a vote were taken that evening they would probably all be unanimous on one point, namely, that no precise rule could be laid down as to the size of farms, each district depending in that respect on its own peculiarities (Hear, hear). There was another rule or principle by which, as a land agent, he had usually been guided. When a man applied to him for a farm, he would first of all ask him what was the size of his pocket; and in this way he was enabled to judge what sized-farm he should have (Hear, hear). With regard to competition for farms, he could bear out to a great extent what Mr. Trask had said on that subject. He had found that the larger farms were the less was the competition for them, and that when a farm consisted of from 150 to 200 acres there would be ten applicants for one in the case of a very large farm. The question of a proper supply of buildings had a very close connexion with that under consideration. The man who occupied only 80 acres of land wanted the same description of building-accommodation as the man whose farm was very much larger; and this being the case, there was much greater economy in leasing farms of 500 acres than farms of 100. The difference, in point of economy, extended indeed throughout all the operations of the farm. What applied first of all to the landlords supplying the requisite buildings, applied also to the tenants' keeping them in proper condition, and obtaining proper implements. Take the drill, for instance. They must all have a drill, but the quantity of capital required was diminished proportionately as the operations were extended. Therefore he maintained that it was of great importance that farms should be of such a size that capital could be applied and cultivation carried on in the most economical manner. Mr. Trask cited the evidence of the Duke of Devonshire's agent in reference to the case of small occupiers who kept a cow. He (Mr. Brown) could supplement that evidence from his own observation. Not only had the persons referred to a small quantity of land attached to their cottages but they had also each the privilege of turning one or two cows into the park for a payment of £3 a-year, and that arrangement was found to work advantageously.

Mr. T. OWEN (Clapton, Hungerford) said he entirely concurred in most of the excellent remarks of Mr. Trask, and particularly in the remark that large farms were schools for labourers; and in that respect, as well as others, had a great advantage over small ones. If a man took a farm of any considerable extent he wanted labourers of the best kind, the first thing he did being to look out for a good carter and a good shepherd; and small farms did not provide the sort of men which were required. He was an advocate for giving small farmers an opportunity of holding land if they had sufficient capital to do so; but he contended that moderately-large farms were most beneficial to the country, especially as great improvements were now essential not only in cultivation but also in the management of stock to enable farmers to compete with foreigners. He did not agree with the last speaker that when farms were to be let there were ten applicants for a small farm for one applicant for a large farm. He would ask that gentleman how often did a large farm come out of occupation as compared with a small one? His own experience showed that in the case of moderately-large farms the changes in that respect were fewer than in that of farms of smaller extent (Hear, hear).

Mr. T. B. DRING (Claxby, Spilsby) thought the discussion of that evening could not alter their opinion as to the necessity of having both small and large farms. When persons who had been brought up to farming, knowing perhaps very little else, the capital at their disposal varied very much in

amount, and they required a farm in proportion to the capital they possessed. Some had capital for a large farm and others only for a small one, and the two classes could not have occupations of the same extent. There could, in his opinion, be no doubt that a larger occupation was best for the public in general. He believed that, as a general rule farms of from 400 to 500 acres were best for the country; but it must be borne in mind that there were localities that were adapted for small farms, and other localities that were adapted for large ones. The other day he happened to be on an estate in Yorkshire which comprised about 13,000 acres, and that estate seemed to be adapted for small farms, consisting of 15, 20, 30, 40, and as high as 50 acres. The farms were so difficult to get at, that the land could not very well be cultivated on the large-farm system; the hills being so very steep that there must be such difficulty in getting machines and coals, and to thrash and get away the produce in such situations, he thought small farms the best. As regards the Norfolk district which was alluded to this evening by Mr. Read, he (Mr. Dring) happened last summer to have gone over a portion of it where the land was tolerably level, and he noticed that there were many small fields with a great number of hedges; and he also noticed that under the trees there were no turnips at all, and that the barley was only half a crop. He could not help thinking what an advantage it would be, both to the owner and the occupier, if those six-acre fields were converted into fields of 20 or 30 acres. In conclusion, he must say that he thought the size of farms would, after the discussion of that evening, remain pretty much as it was before (Hear, hear).

The CHAIRMAN, in summing up the discussion, said it occurred to him as Mr. Trask was reading his paper that there seemed to be three interests involved in the question before them, and he wished just to allude to them. He must, however, first remark that some of the speakers had erroneously assumed that the object that evening was to lay down some hard and fast rule with regard to the size of farms. The statement of the subject was, in fact, rather meagre, being simply "The size of farms." The committee adopted that form after full deliberation, not knowing exactly what line the discussion would take, and wishing simply to evoke the opinion and feeling of the Club-members as to what sized farms would most conduce to the general interest of the country (Hear, hear). Now, as he had just observed, it appeared to him that there are three interests primarily involved: first, the owner; then the occupier; and lastly, the labourer. The case of the owner was very well put by Mr. Brown when he said that a small farm required as many buildings as a large one; so that, in point of fact, a proprietor could scarcely afford to have a great many occupations, on account of the expense of buildings. He (the chairman) fully endorsed that view of the matter. The question whether or not large or small farms were most conducive to the interest of farmers was very well met by Mr. Mechi, when he said that it was a question of capital. Upon all large estates there must be holdings ranging from 50 to 1,000 acres. Then as regards labourers, he agreed with Mr. Thomas, when he said that large farms employed the greatest number of labourers. But there were certain localities that were more favourable for small farms than others. Some of them had been alluded to by some of the speakers, and he (the chairman) could, if time permitted, mention many localities where small farms were necessarily conducive to the interest of everybody connected with them. As regarded the observations of Mr. Paget about men farming their own estate, he remembered many years ago hearing a friend of his remark, that the man who farmed his own estate had a very bad landlord, and he believed that would generally prove to be the case. Mr. Paget referred to several cases within his knowledge in which small owners had sold their land, and become farmers instead of proprietors with great advantage to themselves, and those cases were in accordance with his own observations in such matters.

Mr. TRASK, in replying, expressed his satisfaction at finding 13 out of the 14 speakers who had taken part in the discussion had expressed themselves in favour of large farms as a rule. He had not supposed the Irish Land Bill was necessary in England, but that as our population increased some measure would become necessary, and if rents went on increasing as at present, with an insecure tenure, the capital employed in

agriculture would be far more likely to be reduced from £5 an acre to £4 than increase to £20, the sum Mr. Mechi considered desirable.

On the motion of Mr. MECHE, seconded by Mr. J. THOMAS, a vote of thanks was given to Mr. Trask for his introduction, and the proceedings terminated with thanks to the chairman.

THE FARMERS' CLUB DINNER.

The Annual Dinner of the Farmers' Club took place on Tuesday evening, December 6, at the Salisbury Hotel, Mr. Charles Howard presiding in the absence of the Chairman for the year Mr. James Howard, from indisposition. The Vice-Chair was occupied by the Chairman elect, Mr. Spearing, of Erleigh, Reading.

The CHAIRMAN gave "H.R.H. the Prince of Wales, the Princess of Wales, and the rest of the Royal Family." In proposing this the Chairman said that the Prince of Wales was very fond of field sports; but there was one class of sport which, if carried to excess, as it had been in the county of Norfolk, was highly prejudicial to agriculture, and he hoped His Royal Highness would be led to see the evils of that system (cheers).

The toast of "The Army, Navy, Militia, and Volunteers," was responded to by Captain Johnson, of the Sussex Militia.

The CHAIRMAN then said: Gentlemen, I have now to ask you to drink the toast of the evening, namely, "Success to the Farmers' Club, and thanks to those gentlemen who have read papers during the past year (cheers.)" The Central Farmers' Club ought to commend itself to the favourable consideration of all classes in this country. Its object is a truly national one. It was not established for the immediate benefit of its members, but for the advancement of agriculture throughout the kingdom. I am very glad indeed to find from the excellent Report just issued by the Committee that the Club is in a most satisfactory and flourishing condition. That report states that "the monthly discussion meetings of the Club have now extended over a period of 28 years, during which time there has scarcely been a subject either practically or politically affecting the position of the Farmer that has not received some consideration; while so far from any decline being observable, the Committee cannot but think that the interest and importance of these meetings have increased during the last few years" (cheers). There can be little doubt that the papers and discussions of this Club have commanded increased attention. Evidence of this is given in another part of the Report, which I will now proceed to read. "During the season fifty-five new members have been elected, and there are a number of names now down for the new year. It is satisfactory to see amongst these candidates gentlemen who in their places in the House of Commons are more or less identified with the interests of agriculture, so that there is a promise of the Club increasing its influence in this direction" (cheers). Well, gentlemen, I think it is pretty certain that members of the House of Commons would not join our Club unless they felt that by coming among us there was some useful knowledge to be obtained (Hear, hear). We are very pleased indeed to see such gentlemen among us; and I am quite sure we shall be very well satisfied if they will only discharge their debt for any wrinkles which they may gather here by showing their interest in agriculture in "another place" (Hear, hear). It seems to me very desirable that county members should mix frequently with those whom they represent: they would thus obtain information which cannot be derived in any other way. I know that in some parts of the country many of those gentlemen are scarcely seen from one canvas to another: they appear to be almost as shy of their constituents, to use a very homely phrase, as a cow is of a bastard calf (laughter). We are, I am sure, very much pleased to see several Members of Parliament here this evening; and those gentlemen having become members of this Club, I trust that many others will be induced to follow their example. It is satisfactory, gentlemen, to find that the noble pursuit which we follow is daily advancing in public estimation. Time was when hard names were applied to us, and when it was thought immaterial whether a sheaf of wheat was grown in this country. Those times are

gone by. People read and think more for themselves. The importance of agriculture is, therefore, becoming more and more recognised every day. I only wish that a very useful and excellent article which appeared a month ago in the *Mark Lane Express* could find its way to the pages of some of those periodicals which the better class of our artisans read throughout the country. The subject of it was the annual value of our agricultural produce; the facts stated being very startling indeed, and such as many persons in every class of society know very little about. The writer seems to have gone very deeply into the matter, and he shows that the annual value of the agricultural produce of this country is something like the enormous sum of £300,000,000, that is exclusive of milk, butter, cheese, straw, and horses. We must all have been struck on coming up to London a day or two ago to find in every newspaper, no matter what may be its political bias, an article upon the Cattle Show in connection with its bearing upon our food supplies. Gentlemen, that is a very important question, and one which we must face (Hear, hear). Warm defenders as we are of our present system of agriculture, we cannot shut our eyes to the fact that it might be very much better, and that a very much larger amount of capital might be beneficially employed in it. But is it likely, I ask, that men who have capital will embark it in the cultivation of much of the soil in this country while there is such an insecure tenure as we now possess? (Hear, hear.) There are quite as bad landlords in England as there have ever been in Ireland (Hear, hear). There are landowners here who tenaciously cling to feudal usages—whose tenants require quite as much protection as any on the other side of the Channel; and it is quite evident that if English agriculture is ever to assume the position which it ought to assume, a well-defined Tenant Right is imperative (cheers). It may be said that on the large territorial estates generally of this country nothing of that kind is required. True there is greater security on those estates than on others; but, gentlemen, a Pharaoh may arise who "knows not Joseph" (laughter), and great hardships may be endured in consequence (Hear, hear). I have to bring before your notice in connection with the toast the gentlemen who have been kind enough to read papers during the past year. One of those papers at least bore upon the point to which I have just drawn your attention; I allude to the valuable paper read by our excellent secretary, Mr. Corbet in May last; and only last evening, we had an interesting paper, involving the vexed question to which certain parties in this country look as a remedy for all our evils as a nation; I mean the question of cutting up all the land into small farms, the idea entertained by those to whom I allude being that if that were done, we should never hear anything about distress again (laughter). Gentlemen, I now call upon you to drink the toast (cheers).

The toast having been drunk with great cordiality, and the names of Mr. H. Corbet and Mr. Trask being associated with the toast,

Mr. CORBET said: Having to respond to a subsequent toast, and being strongly of opinion that a man ought not to speak more than once in the evening, he felt more inclined to read an extract from a speech than to make one himself. However, an old schoolfellow of his, having thrown overboard his Latin and Greek, went to Australia to engage in farming operations there. Having recently returned to this country he called upon him last summer, and showed him an Australian newspaper, containing something that appeared to him (Mr. Corbet) to be of interest to them. This was an address delivered before the Victorian Agricultural Society on "Rational Cultivation." In the course of his remarks the lecturer said: "First on the list of things that would tend to promote rational agriculture, I will venture to mention Farmers' Clubs, such as this Society has had the honour of introducing to the colony, or, as they might be called, farmers' schools for grown-up pupils, where each by turn is teacher and is taught. They are the most readily available and practicable means of agricultural education that we have at hand. These Clubs, and the national shows of the Royal and Highland Societies have done more to advance British agriculture to its present position of high excellence than anything else. They have taught the British farmer to think, and to express his thoughts. I can assure you, although you may not think it, I read with far more interest and profit the papers and discussions of some of those Farmers' Clubs in the old country than I do even the parliamentary de-

bates in our own. Through these Clubs, and the agency of the press in diffusing the knowledge gleaned at their meetings, and by that strength which such union gives, the British farmer is fast becoming a power in the state. Instead of being considered a mere cipher, and told now he was to vote at elections, he will ere long dictate to his landlords how they must vote in Parliament on such questions as the Game Laws and Tenant Right." Now he (Mr. Corbet) thought it must be very gratifying to them living in the old country to find their glory waited right and left across the sea—not the glory of England only, but the glory of the Farmers' Club (cheers). Especially gratifying was it to him to find the questions of Tenant Right and the game laws placed in such a prominent position. They had laboured earnestly and honestly on the question of Tenant Right for the last 30 years; he thoroughly believed that on that question farmers were becoming stronger and stronger; and having himself had the honour to introduce the subject for discussion in May last, he was much gratified to hear it referred to as it had been by the Chairman that evening. He was quite sure that there was no flag under which tenant farmers could fight better than under that of Tenant Right (cheers).

Mr. FRANK also returned thanks. He said he believed that many of the papers read before that Club had done a great deal of good and exercised very great influence. As a proof of the interest some of the authorities of the country had taken in the proceedings of that Club, he might mention that a Blue Book, which was presented to Her Majesty and the Houses of Parliament during the present year, having been printed "by Order," contained a report of a discussion which had taken place at that Club. That was, he thought, a great honour to the Club, as well as to the author of the paper, Mr. Trethewy, in which the discussion was introduced (cheers). In illustration of the increased interest which was manifested in the Farmers' Club reference had been made that evening to some new members. He was quite sure that the members of that Club generally were very glad to see enrolled in their body Members of Parliament who took special interest in agricultural subjects, and he only hoped that the Hon. Baronet the Member for Devon (Sir Massey Lopes), would be able to do something to adjust the local taxation of the country.

Mr. C. S. READ, M.P., then proposed "The Chairman—with better health to Mr. James Howard, M.P., the Chairman of the year." He said: We live in stirring times—we hear of "wars and rumours of wars;" and I am sure, gentlemen, you all joined in the devout hope of our chairman that this country may continue to be blessed with peace, and I would add that we must one and all pray that that horrible war which is now devastating France may shortly be brought to a close (cheers). We cannot, indeed, now look upon it as war, it is something like murder. Almost every one who now speaks in public about the war has a theory with regard to it. I have heard this theory advanced in order to account for the successes of the Germans over the French—that the physical superiority of the Germans is caused in a great manner by their having better military drill than the French. Now, as the French are constantly drilled, I should have imagined that the intermittent drill of the Germans is not quite as perfect as the French drill (Hear, hear). However, I am not a judge on that point. Another theory is that the German victories are owing to the superiority of their education; but if you examine the matter, you will find that the soldiers of German States which are not quite as highly educated as those of Prussia and Saxony are equally brave in the field. There are all sorts of theories and arguments on that subject, and, with your permission, I will give my theory. I believe that the superiority of the Germans consists in their being a beer-drinking people (laughter and cheers). I say it seriously—a sober, beer-drinking people (Hear, hear). Beer is their national beverage. They have no malt-tax; they have very little beer-tax. You can get all over Germany a cheap, refreshing glass of beer, and I contend that that is very much better than the sour wines of France, which purge the body and set the teeth on edge (laughter). I would follow up that thought by saying, how comes it to pass that our agricultural labourers are so degenerate in physical strength? They are better paid, they are better clothed, they are better housed than they were fifty years ago; but they cannot undergo the same amount of physical toil, and I say we must look to the drink for the cause. The milk has been exchanged for

wishy-washy tea (Hear, hear); the home-brewed that was doled out regularly from the farm-house, and the swipes that was brewed in the cottage, have been exchanged for horrible doctored publican's beer, supplemented now and then with a glass of poisonous gin (Hear, hear). It has been my fate on previous occasions like the present, not exactly to give an account of my stewardship, but to bring before you one or two of the main passages which the last session of Parliament has supplied with regard to agriculture. Now, I had hoped that our excellent President would have supplied my place on this occasion; and I am sure that we all deeply regret his unavoidable absence, and the unhappy cause of it (Hear, hear). I am sorry to say that the statement which I have to make will be a very short and a very poor one. The main portion of last session was taken up with the consideration of the Irish Land Bill—a bill which, though it was eulogised last night by one or two speakers, I believe is not the sort of bill which we should wish or hope will ever be passed for England (Hear, hear). The small tenant farmer of Ireland is not merely going to be paid for every sixpence that he has expended on the soil, but he has also created for him a special interest in the occupation of the land which, although it may in the first instance be to his profit, will, I am quite sure, in the end militate greatly against the interest of the tenantry of Ireland (Hear, hear). You can never do a wrong for one class but it must somehow or other eventually recoil upon that class. Another matter which I would mention is the gun-tax. That has been said to be a game-preserving Bill in disguise. Well now, in my opinion, it is a game-preserving Bill, pure and simple (cheers). I do not suppose any one can believe that such a wise and subtle man as Mr. Lowe for one moment thought that by imposing a ten-shilling tax he could prevent people from being murdered by revolvers or effectually suppress what he calls the too general use of fire-arms. Now, with the exception of one or two other matters, with which I will not trouble you, I believe the last session was, as regards practical agriculture almost a blank. Perhaps you will ask me how it was that there were so many blank sessions in Parliament as regards the agricultural interest. I would say, and I say it boldly, that it is just the same in the House of Commons as out of it. The agricultural interest is the most powerful interest in the kingdom; but it is not united, and it loses its cohesion when it comes to practical work (Hear, hear). We are the worst hands in the world at accepting extraneous help. I would ask whether the corn-laws would ever have been repealed if the agitators for their repeal had not been ready to receive help from any one who would grant it, without inquiring what were his politics? (Hear, hear). I say we are to blame in that respect. We are, moreover, constantly carping at what we call crochets, enthusiastic men. We should utilise their enthusiasm. Remember that the world has been conquered and governed by enthusiasts. Coming outside Parliament let me begin with the various agricultural societies. There we meet with a great number of most useful, practical, well-worked societies; and I believe that they are all wanted, and that each one in its different line and vocation is doing an immense deal of good. Certainly I for one should have liked to see some of the junior institutions of that kind grafted upon the older ones. Still there is sufficient room for all of them. But, then up starts one of our eloquent speakers or ready writers, and who seem constantly trying to create dissensions and divisions, which would not otherwise exist; and these, mind you are not outside enemies, but persons who profess to be among our best friends. That, therefore, is one of the reasons why it comes to pass that the agricultural interest outside Parliament is not thoroughly united. And then, just look for one moment at the case of individual farmers. Go into any country you like, and take a body of farmers. For five-and-twenty years they have been "hoping against hope." Ever since the corn-laws were repealed they have been promised this, that, and the other. Not a single promise has been redeemed, but instead of that increased taxation has been constantly imposed. So they grumble and do nothing. And then, if you do see a good, active, zealous man, you find that he is very apt indeed to fancy that his own locality represents the whole agriculture of the country. He makes a speech at his own Farmers' Club, and comes up here and lets off the steam, and then is dreadfully annoyed to find that other people don't think exactly as he does. I will exemplify that in my own case.

On the very last occasion that I made a speech in the House of Commons the noble lord the member for Retford (Lord Galway) was good enough to tell me that I considered Norfolk to be all England (laughter). Now, then, let us look at some of our acknowledged grievances, and see how they are generally treated by farmers and by our friends. First of all, take the malt-tax. What do our friends who are fond of wrapping us in wet blankets and dosing us with cold water say? "O it is possible to make better and perhaps a little cheaper beer;" but as to you farmers, you would be inundated with foreign barley, and would not have a better price for your grain if the tax were repealed." Again, take the case of the Game-laws. If you were to get some modification or alteration of those laws, our kind friends, say the landlords, will be in exactly the same position as at first, and will just keep as much game as they please. Then there is the great question of tenant-right. We are told that we farmers should certainly get no benefit, that we should have to pay for what we did not want and have greatly to increase the capital which we employ in the land. As regards county financial boards, some say, "You will have higher rates." Further, there is the question of local taxation. During the last five-and-twenty years the whole of the increased local taxation has been paid by the tenants—I say, most distinctly and emphatically, the whole of the increased local taxation on land has been paid by the tenants; and, then, you are told that if there be a modification or alteration, the whole of the benefit will be enjoyed by the landlords. Well, then, suppose you get a Minister of Agriculture, what will he do? "He will," it is said, "make statistics compulsory, and tax our farm horses." That is the kind of argument which you have at every market table, from some extraordinary individual it may be, but still he is, somehow or other, identified with the agricultural interest, and he may even be a tenant-farmer (laughter). It seems to me that we ought to try if we cannot put an end to that sort of thing; for it is because we have these schisms and divisions among ourselves that we do not make the progress that we ought to make. Well, then, look at agricultural meetings. If we go to one meeting and see a great many landlords at such meeting, we find some man starting up and exclaiming, "Undue landlord influence!" If we go to another meeting, and no landlords are present, we hear it said, "Landlords are not doing their duty, or taking a proper interest in agriculture!" (laughter.) You go to another meeting, perhaps, where the question of education was to be considered. The clergy, more than any other class, take a deep interest in the education of our agricultural labourers; yet, when they attend a meeting in any number, you are sure to hear the words, "Too much priestly influence." And then, when they have come to a real *bona fide* farmers' club like this, gentlemen go away and say—"Why these tenant-farmers seem, somehow or other, to forget that there is such a being as a landlord left." Let me just say this, gentlemen, in respect to our own Club—this is the greatest and best combination of practical farmers in the kingdom; but we have hitherto suffered a little through not having had a sufficient number of landlords to take an interest in our proceedings, and therefore I cordially join in the congratulation expressed in the report of the committee, that in the past year we have added considerably to our list of the number of landlords and gentlemen having seats in the House of Commons who are connected with the agricultural interest. Now, gentlemen, let me just draw a moral from what I have said: Don't let anyone say for a moment that any advantage which can be gained for agriculture can be appropriated exclusively either by the landlord, the tenant, or the labourer. It is impossible that it can be absorbed by one class. If it be a real benefit it will pervade the whole, although it is just possible that some one class may receive a larger percentage of benefit than others. And then, just let me add this—that there cannot be greater unity between landlord and tenant till they act together more than they have done. And I am quite sure that the more landlords and tenants know of each other—the oftener they meet, the more frequently they discuss differences—the greater respect they will entertain for each other, and the greater will be the amount of success, prosperity, and advancement attained by agriculture (cheers). Gentlemen, one part of my toast is "Better health to Mr. James Howard, M.P., the chairman of the year." Mr. Howard has done good service to the cause of farmers in Parliament (cheers). It is most

essential that the agricultural interest in Parliament should not belong to any particular party, were it so, we might have Liberal members to speak for us whenever agriculture is assailed. Mr. Howard stands up in the House of Commons on our behalf; he not only speaks, but speaks well; and the only time that I have seen any impatience manifested towards him was when he rather displeased some of his Liberal friends by upholding the tenant farmer, and they therefore endeavoured to stifle what he was saying. I am sure you all sympathise with his family in relation to his present indisposition, which has no doubt been brought on by overwork. There are some people who rust up. Mr. Howard is not a man of that sort; and I believe—I am sorry for it, for our sakes and for the sake of his family—he has been wearing himself out. Before sitting down I wish to say one word with regard to our excellent chairman. It is not often that so good a substitute can be found as we have the good-fortune to possess on the present occasion. If there be one man in the country whom I more respect than another that man is Charles Howard (cheers). If I wanted to place before the world a good specimen of an intelligent, honest, and truly Liberal John Bull, I should present our excellent chairman (renewed cheers). I believe that in every relation of life he is a pattern to us all, and I have great pleasure in including his health in the toast.

The toast was drunk with the honours.

After a fitting response from the Chairman,

Mr. A. PELL, M.P., proposed "The Royal Agricultural Society of England, the Highland Society of Scotland, and the Royal Agricultural Society of Ireland." He said that, after the practical speech which they had just heard, he felt himself to be a sort of Telemachus sitting by the side of the great Ulysses of agriculture, and he would not detain the assembly by entering into the various questions with which his hon. friend had dealt. No one could doubt that the three Societies embraced in the toast rendered most useful service in the economical system of this kingdom, their great object being to increase the productions of agriculture, and improve the breeds of stock with which these islands were so richly blessed. But he ventured to say that they might in some cases produce a mischievous effect. Some persons who had attended their shows in past times, when they saw the prices, had perhaps imagined that they had only to invest their money to secure a profit by farming; but they had since learnt by experience that that was by no means the case. The first thing that the agriculturist had to do, after attending a great show, was to think. Thought alone would not make a good farmer. In addition to that, there must be practice and care; and without these, no man could be a successful, and therefore a useful farmer, for he maintained that the man who lectured to the practical farmer, without knowing whether or not what he recommended was sure to be successful in a business point of view, was not a useful but a mischievous man (Hear, hear). If at Lady-day or Michaelmas-day they could not obtain something more than a return of five per cent. for their capital and labour, agriculture was but a waste of time. One great advantage connected with the three great Societies which he had mentioned was, that their meetings afforded opportunities for bringing together the three great classes who worked together (long might they continue to do so!) in agriculture. There the greatest of the land and the lowliest members of the agricultural community met for common purposes; and at the same time the intelligent mechanic not unfrequently evinced a deep interest in the machinery employed in farming operations. In conclusion, the hon. member coupled with the toast the name of Mr. Masfen.

Mr. MASFEN, in responding, said the three great Societies included in the toast had done a vast deal of good in their day and generation; and if they had done nothing else, it would have been a great thing to have removed long-standing prejudices which hindered the progress of agriculture. In looking over the list of the Royal Agricultural Society of England he found that the greater portion of it consisted of men who were interested in the management of the estates of great landowners; and he believed there was now a strong disposition on the part of the landed interest to extend to the occupiers of the soil that protection for their capital, the want of which had been such a great obstacle to improvement. So long as tenants were subject to a six-months' notice to quit, they could hardly be expected to invest much of their own capital in the land which they cultivated. Mr. Masfen further referred to

the ensuing meeting of the Royal Agricultural Society at Wolverhampton, in which he took great interest.

Mr. T. CONGREVE, in proposing "The Vice-chairman, Mr. J. B. Spearing," Chairman-elect for 1870, congratulated the company on having secured a chairman for the ensuing year who, though unassuming, had evinced great talent in connection with agriculture.

Mr. SPEARING, after suitably responding, proposed "The Smithfield Club," coupled with the name of Mr. Horley.

Mr. T. HORLEY, Jun., one of the Judges, in responding, said that no gentleman who had gone over the Show could say that it was not one of the best practically that had ever been held; and, comparing it with the shows in Baker-street, they must come to the conclusion that the amount of meat exhibited in the Hall that day was vastly in excess of what any of them were in the habit of seeing at the West End. In going over the various classes, one thing which struck him was, that there were certain animals there which would have been better at home, and many which were disappointing to the exhibitors, because they had not been brought on the right day to run (Hear, hear). Exhibitors should bear in mind that the bringing of an animal there was not like taking it to a breeding show. The Smithfield Club was engaged in producing the greatest possible amount of meat from the carcase and the least amount of offal; and unless the animal were brought in that light condition which would satisfy the hand and the judgment of the most fastidious man, it was not to be expected that it would stand in the position that the owner desired (Hear, hear). With regard to the management of the Smithfield Club, there might be, and there no doubt were, some points with respect to which it should step out, and some little alteration be made; but he did think that the way in which the stewards and the honorary secretary, assisted by the Executive of the Agricultural Hall, conducted the shows, was a pattern to those who had the management of similar gatherings in the country (cheers).

The Rev. E. SMYTHIES, in proposing "The Committee of Management," coupled with the name of Mr. Henry Trethewy, expressed his sense of the increasing desirableness of associating landed proprietors with the proceedings of the Club, adding that he hoped some of them would undertake to read papers.

Mr. TRETHEWY, in responding, said he felt it a great compliment to have been selected by the Committee to perform that duty. The Committee would, he remarked, be very glad if gentlemen of the class referred to by Mr. Smythies would undertake to introduce a subject. Every member received a circular inviting him to read a paper, and he hoped the matter would not be lost sight of by the members generally. It was now about 20 years since he first had the honour of joining the Committee, and he could conscientiously say that his attention to the business of that Club had always been to him a source of great satisfaction, and that he rejoiced at the results which had been attained. Fifteen or sixteen years ago, or perhaps a little further back, the Club was almost in a bankrupt position, and one member of the Committee actually resigned because he thought it would not be able to pay 20s. in the pound (laughter). In happy contrast to that state of things the Club had now an invested fund of £1,200. He could not help adding one or two words respecting some of those whom they had lost by death or some other cause. Looking back 15 or 16 years he was reminded of such men as Mr. Fisher Hobbs and Mr. Baker, whose portraits they still preserved, and the recollection of such losses somewhat diminished the pleasure which he felt in the retrospect of the past. He would not continue that strain, but he thought the memory of such men ought not to pass away (Hear, hear). Before sitting down he wished to propose the health of a gentleman who filled a most important post in that Club and also was

well known to all of them. It was quite unnecessary for him to take up any of their time in proposing "The Health of the Secretary," whose labours he was sure they all appreciated (cheers).

Mr. CORBET, after returning thanks for the compliment, said he could not help saying a word or two respecting the gentleman who had filled the chair that year. He was not in the habit of paying unnecessary compliments, but he must say that no man ever filled the chair of that Club with greater credit to himself, and none ever did more for its welfare either in that room or out of it, than Mr. James Howard (cheers), whose absence they all so much regretted (Hear, hear).

The CHAIRMAN gave as the last toast "The Visitors," associated with the name of Sir Massey Lopes, M.P.

Sir M. LOPES said: I trust this is the last instance of my health being drunk as a visitor: I trust that ere long my name will be enrolled among the members of this club, and that I shall no longer be considered a stranger among you. I have not taken up agricultural questions for the first time within the last few years. Many years ago it was my lot, after having taken my degree at Oxford, having nothing better to do, to serve an apprenticeship to a farmer in Scotland, and I look upon what I learned there as the most useful part of my education. I happened to be the successor to land which was not in the best condition, and I thought that if I went to the Lothians it might be an advantage to me as an English agriculturist. I must say that what I learnt in Scotland was not exactly suitable to the county of Devon, where I live (Hear, hear). One word with regard to a question in which I have lately taken special interest—I mean local taxation. If I had not had the support of farmers and of my two hon. friends on my left (Mr. C. S. Read and Mr. A. Pell) I should not have been so presumptuous as to introduce such a difficult and abstruse question in the House of Commons. That question is not a party one; we have a good cause and a great case, and all we have to do is to influence and educate public opinion, because this is a question which concerns not agriculturists only, but all classes of society. I feel that the movement is progressing, but we want more vigour and a little less of that apathy which is I must say more conspicuous among landlords than among tenant-farmers. What we want is unity, and one great advantage of such a Club as this is that it tends to create unity. We need to meet together more as landlords and tenant-farmers, and I feel sure that the more we do meet together and the more we see of each other the more we shall appreciate each other. If we landlords are to receive wholesome advice, it is far better that we should receive it face to face than behind our backs, and I feel quite certain that whatever is uttered with good temper will produce due effect. I look upon the Chambers of Agriculture as one of the greatest powers that the agricultural interest has ever possessed, and I grieve that so few landlords take part in their proceedings. There is a good old Cornish proverb: "One and all"—and that indicates what we now want. We are at present too much like scattered sheep: there is not sufficient combination and co-operation among us, and that is the reason why we are so much fleeced. If, instead of there being so many landlords in the House of Commons we had a few more tenant-farmers, depend upon it your interests would be much better looked after. There is not very much sympathy with landlords in that House. If a tenant-farmer make an appeal, that appeal is listened to with respect; but as to the landlord, the sooner he hides his diminished head the better (laughter). It is said to be the old story, and they are chaffed about distressed agriculture. Depend upon it there shall be no want of vigour or energy on my part, though I may not succeed (cheers).

The company then separated.

A NEW LAND BILL FOR ENGLAND.

At the December discussion, Mr. Edmunds of Rugby, in his own words "merely rose to ask The Farmers' Club whether they really thought for one mo-

ment that England required an Irish Land Bill? He believed that no such absurdity was ever started." And as he rose to say so much, Mr. Edmunds sat down again.

declaring that "the less they had of centralisation or of Government interference with the ordinary transactions between man and man the better." These remarks would seem to have been made in answer as it were to a paper just previously read by Mr. Trask, of Highleaze, on The Size of Farms, in which the introducer of the subject had expressed his conviction that "at no distant day a Land Bill will become as necessary in England, as the noble measure of justice which has become law this year, was found to be necessary for Ireland." Now this by no means implies, as, however, the question put by Mr. Edmunds would infer, that any-body had ever advocated at the Farmers' Club the necessity of an Irish Land Bill for England. That, of course, which is required for England is an English Land Bill, as, no doubt, the adoption of any amendment in this way in one part of the United Kingdom may lead to something more being attempted in another. At a meeting of this same Club in the spring of the year the author of the paper under consideration had stated that if he tried to read the signs of the times, he should say it was by no means improbable that the present Government took up in turn the land question in England; while Mr. James Howard supported this by stating how, of his own knowledge, "there was a very growing impression amongst the members of the House of Commons that the Irish Land Bill must be followed by an English Land Bill, as, indeed, the one was a corollary of the other." And Mr. Howard, be it remembered, is a member of the House of Commons. Mr. Trask, as it seems to us, went no further than this, as no one, in fact, "started such an absurdity as that an Irish Land Bill was requisite for England."

But Mr. Edmunds himself went a deal further, that is, if we properly understand the purport of what he said: "the less they had of Government interference with the ordinary transactions between man and man the better." And this being duly interpreted, we shall assume, to mean simply that so far as the ordinary transactions between landlord and tenant are concerned, no English Land Bill is required. Mr. Howard, Mr. Trask, and others fancy they see that some such measure "coming;" but then, according to Mr. Edmunds, at the Farmers' Club, nobody wants it, or "the less of it the better." This sounds somewhat startling after all the farmers have been doing of late years to improve their position in the State. Hitherto the Land Law has in practice been found to be pretty much upon one side, and in the ordinary transactions between man and man the landlord has had it generally all his own way. At any rate, for the last quarter of a century or so the point of hundreds of papers and the conclusions at thousands of meetings have been to the effect that it would be all "the better" if there were some "Government interference" to amend the relations between man and man, that is to say between landlord and tenant.

Should not, for instance, the farmer's capital be secured to him by some broad general recognition of the Tenant Right principle? But so far it is not; and at this very moment the western counties of Hereford and Devon are wild with excitement at the injustice that has been done, and clamorous for some good English Land Bill. Enough, in fact, was said at the Farmers' Club dinner on the Tuesday to show how this subject is growing, as that, according to Mr. James Howard, "the Legislature of this country will entertain the question of an English Tenant Right Bill." And this of course is interference between man and man. Again, how is the abominable Game evil, against which, as we have seen during the last few months, it is quite impossible to farm, to be effectually attacked but by Government interference in the ordinary transactions between man and man? A new Land Bill must enact that rabbits are mere vermin, to be treated as such, and that any one who chooses to create an abuse shall do

so at his own cost and not at the expense of other people. Or, further, why should any landlord, or more especially any such a landlord as this, who has ruined a man by game or turned him out in the world without giving him his own again, have the prior claim on the tenant's means and produce? Does the law of distress for rent require no amendment? do man and man in this matter deal quite fairly, when one takes all and the other creditors little or nothing?

The plain truth is that English Land Laws as they now read are as lop-sided as they well can be; made by landlords for landlords, and so far as the ordinary transactions between man and man go on little other consideration. There are, moreover, in this age of competition customs or practices growing up that, if not precisely laws, require the attention of the law. For example, there is the pernicious business of putting up farms to let by auction, when the worst man commonly gets in, as of course sooner or later he is sold out, when under the present delightful circumstances the landlord has the right to "satisfy" himself in the face of everybody else. "In the county of Somerset," says Mr. Trask, "where the moderate-sized farms largely prevail, the competition is something enormous, and we are beginning to hear of the loathsome system of offering bribes to agents to get farms, and in one case, that has recently cropped up, an agent is greatly belied if he didn't accept a bribe of £100 from an in-going tenant, for whom he got the farm, and that too with the owner's knowledge." Why, we could surely never expect to hear of anything worse than this in Ireland, as the case, indeed, quite out Herods the "Good will" that has been so much protested against. But here in England, down in Somersetshire, the small farmer must not only find capital sufficient to stock the land, but to fee the agent. These are not perhaps so much the ordinary as the extraordinary transactions between man and man, but they must be looked to nevertheless, as we often enough have to legislate on exceptions to the common principles of honesty.

The fact is, as it seems to us, that Mr. Edmunds has got hold of a pet but utterly obsolete phrase when he talks of not interfering between man and man in their ordinary transactions, that a man must take care of himself, and all that sort of thing. Whereas in almost every walk of life, save in the practice of Agriculture, the weaker is protected against the stronger. The tradesman knows full well that he must treat his apprentice as the law directs; the master cannot ill-use his servant without being held amenable. If a man has been over-reached in the purchase of a house or a horse, the Government "interferes" in the transaction with a view to seeing him righted. But on the farmer's behalf no one interferes. The landlord may ill-treat him or the agent over-reach him, and he has really no remedy. They may turn him out without offering him a sixpence for all that he effected, as has been done lately, or they may eat him up with game, as is done daily. And still he is to grin and bear it, for "the less interference there is the better."

But Mr. Edmunds is no farmer himself, or, as he explained to the Farmers' Club, only in a very small way, and hence it may be questioned how far his opinions represent those of the farmers. That an English Land Bill will be brought in is tolerably certain, perhaps a measure of more scope than is expected, as that this is required is equally beyond a doubt. We have only to hope that the landlords, who are now working in public with the farmers, will give it a welcome, even though this should not emanate from the landlord side of the House.

THE BIRMINGHAM AND MIDLAND COUNTIES CATTLE SHOW.

The annual general meeting of the Subscribers to the Birmingham Cattle Show, was held on December 5, at the Hen and Chickens Hotel, New-street. In the absence of the President, Lord Combermere, the chair was taken by Mr. C. M. Caldecott. Lord Beauchamp was elected president for 1871; and the Council for conducting the business of the show for the ensuing three years was also elected, in this way:—Vice-Presidents: The Mayor of Birmingham, Lord Lyttelton, Lord Leigh, the Earl of Dartmouth, the Earl of Lichfield, the Earl of Dudley, Earl Spencer, the Duke of Marlborough, the Earl of Aylesford, Lord Walsingham, the Earl of Harrowby, Lord Wenlock, the Earl of Powis, the Earl of Bradford, the Earl of Coventry, and Lord Combermere. Treasurer: Mr. J. Lowe. Trustees: Mr. C. M. Caldecott, Mr. H. Luckcock, and Mr. J. Mathews. The Earl of Warwick, Lord Calthorpe, Viscount Hill, Sir G. R. Philips, Bart., Messrs. C. N. Newdegate, M.P., W. Bromley-Davenport, M.P., G. Dixon, M.P., G. C. Adkins, T. Avery, J. Jaffray, W. James, T. Lloyd, G. F. Muntz, C. Ratcliff, T. Ryland, H. Wiggin, G. Wise, E. Gwyther, W. Holliday, H. Adkins, J. Arnold, H. Barclay, J. Barker, W. A. Beach, C. S. Bigge, J. H. Burberry, T. Burbridge, T. T. Burman, J. Cattell, W. H. Clare, C. Couchman, B. Dain, J. H. Dawes, W. Fowler, E. Freer, J. Gillott, J. Heap, T. Horley, jun., W. Lort, H. Lowe, W. B. Mapplebeck, R. H. Massen, W. Mathews, jun., G. A. May, C. Richards, F. Sabin, J. Smith, G. Steedman, T. Walford, and T. B. Wright. The receipts during the Show, which closed on Thursday, stand thus, in comparison with other years:—

	1866.	1867.	1868.	1869.	1870.
Monday	£214	£249	£213	£195	£200 0 0
Tuesday	£158	£247	£240	£310	£385 8 0
Wednesday	£162	£257	£291	£437	£464 1 0
Thursday	£113	£223	£239	£424	£492 14 6
	£617	£978	£992	£1,366	£1,002 3 6

A vote of thanks was accorded to the retiring President, Lord Combermere, and some other formal votes and resolutions were put and carried. Mr. Albright read a memorial from the promoters of the War Victims' Fund to the council of the Birmingham Cattle Show, asking for donations of seed-corn, to enable the distressed peasants in France to plant their devastated farms. The project seemed to be favourably entertained. Several of those present promised donations to the Fund.

THE BEST FAT PIG AT BIRMINGHAM.

TO THE EDITOR.

SIR,—I find in your report of the Birmingham Show, the following words: "The best single fat pig—although exhibited by the Duckering's, this is quite a chance pig, as the breeder is unknown." I shall feel obliged if you will correct this. The pig was bred by myself, and I exhibited it at the Bath and West of England Show, held at Taunton in June last, when I sold it to the Duckering's for £20. I am surprised at their withholding the name of the breeder, which is a positive injustice to me.

I am sir, yours respectfully,

T. R. CORNISH.

Wolfsgrrove, Bishopsteignton, Nov. 30.

THE POINTS OF THE PIG.

We have been favoured with the following paper by Mr. John Fisher, of Carhead:

1. **HEAD AND EARS.**—The head should be wide in front; ears erect, and pointed forward; chaps rounded, and well filled up to the brisket.

2. **CREST AND SHOULDERS.**—Crest wide, and rising well to the shoulders; shoulder-blades well sloped backwards.

3. **RIBS AND LOINS.**—Ribs well sprung; loins wide, and slightly arched.

4. **HIND-QUARTERS.**—Hind-quarters not to slope, nor narrow towards the tail.

5. **HAMS.**—Hams rounded outwards, well let down, and full at the twist.

6. **CHEST.**—Chest wide, with elbows well out.

7. **FORE-RIBS AND FLANK.**—Fore-ribs wide underneath; flank well let down, straight, and well filled to the stifle.

8. **LEGS AND FEET.**—Legs straight and small in the bone; feet small and compact.

9. **HAIR AND COLOUR.**—Hair plentiful, bright, and vigorous; colour to denote purity of breed.

10. **TAIL.**—Tail entire, thick at root, and tapering.

11. **SIZE.**—Size according to the breed.

TABLE GIVING THE FULL VALUE TO PERFECTION IN EVERY PARTICULAR POINT IN THE PIG:

No.	Award to Perfection		
1. Head and Ears	8
2. Crest and Shoulders	8
3. Ribs and Loins	12
4. Hind-quarters	10
5. Hams	12
6. Chest	10
7. Fore-ribs and flank	15
8. Legs and Feet	10
9. Hair and Colour	10
10. Tail	5
11. Size	10

Award a lesser number to each of these points in the proportion that it falls short of perfection or the highest standard of excellence. Thus—if the head be long or narrow, the chap light, and the ears hang down over the eyes, award only 6 or 4, or 2 or 0, as they may deserve; and so on through all the points. Then add the number of awarded points together, and the total will give the order of merit in the animal.

THE CAUSES NOW IN OPERATION WHICH DISCOURAGE THE APPLICATION OF CAPITAL TO AGRICULTURE.—At a meeting of the Leicestershire Chamber of Agriculture, some time having elapsed before any member would open a discussion on this subject, Mr. Foster eventually did so, by moving the following resolution: "That in the opinion of this Chamber the main causes at present in operation which prevent the application of capital to agriculture are, first, the comparatively unremunerative nature of the occupation; second, the want of sufficient security for capital invested therein; and third, the ravages occasioned by the over-preservation of ground-game." Mr. Foster said in putting this that "Two years ago they had a very similar season to contend with to the present, and there was a fair yield of wheat on most soils—he believed there would be this year; but he would confidently say that he should produce nearly a quarter of wheat per acre more this year than he did two years ago, and that would be mainly, if not wholly, due to the destruction of game on his farm. It was nonsense to say that the landlord would meet the tenant in the matter of rent, where such a state of things existed as he had pointed out (Hear, hear). For in his case he should derive more benefit from his wheat land this year in consequence of the destruction of the ground game, than the whole rent of the land would come to. He was happy to say too, that on the estate upon which he lived, a neighbour of his had been successful this year in winning the prize offered by the Rugby and Dunchurch Agricultural Association, for the best managed farm. He did not think it possible under the state of things that existed two years ago, for any farmer on that estate to farm his land so as to win a prize; it was wholly owing to the destruction of game that he had been able to do so." Mr. Simpkin seconded the resolution, which was carried.

BIRMINGHAM AND MIDLAND COUNTIES CATTLE SHOW.

The fact that the best beast in Bingley Hall this season could reach no higher than a high commendation when exhibited at Islington last year, would at the first blush of it go to imply that the show is not one of any extraordinary merit. And such an inference is by no means unwarranted. The cattle classes are pretty generally stronger in numerical entries than individual excellence; and, with the exception only of Mr. Pulver's ox, there is not an animal to be found amongst the three "established" English breeds of really great pretensions for such a meeting, although the polled Scots and crosses have here and there more merit, if this be not so clearly spoken to in the prize-list. Noticeably enough the Herefords which came out so well during the summer are now proportionately weak, as there was not a beast amongst them that stood any chance for any honours beyond beating something of his own breed. The best of all the white faces, Mr. Cocks' steer, has great size and plenty of meat, but he lacks style, and is altogether coarse and common; the second best in the class from the same stalls showing more quality and symmetry, and Mr. Price's third prize being a very smart taking steer, but not so ripe as he might be. The handsomest Hereford, however, was the best steer of the other class—a beast full of fine character, set off by such points as a blood-like head and kindly expression, a broad open front, and a rich-coloured curly coat. He comes of the famous Leen herd, as, when we saw him at Hereford in the autumn, we said this beast would "make his mark hereafter." Nevertheless, the judges dwelt terribly over this animal and a steer bred by Mr. Shirley, but fed by Mr. Heath in Norfolk, and a good butcher's beast no doubt, as level and firm, but bad in his quarters, and altogether mean in his appearance, beginning with a cunning bad head, and wanting altogether the nobility of the other. Her Majesty's third prize was to the eye more of a mongrel than a Hereford, and the remainder of the class as indifferent as need be. There was a larger entry than usual of Hereford cows, as one might have looked reasonably enough here for the best of the breed, with such well-known winners as Mr. Rogers' Silk, Mr. Hill's Excelsior, and Mr. Ridgley's Cherry in the class, though the judges pronounced a superior to any of these to be a round, deep, well-fed cow from Wenlock; the best for the shambles possibly, but with little of the stamp or fashion of Silk or Excelsior. Still Mr. Rogers' cow was in anything but blooming condition, and Cherry, the Ludlow prize cow, otherwise a very clever one, is sadly disfigured by her bad lumpy quarters. The two best Hereford heifers were a long way before the rest of the class, and both so good that one only wonders the more why the Mayor's prize went to a steer?

At the Oakham show in 1869 Mr. Pulver, a yeoman of Broughton, near Kettering, showed a Shorthorn steer, by Biddenham, a bull from Mr. Charles Howard's Spencer tribe, but bred by Sir W. de Brooke, that took a second prize in an All-England class to Mr. Roland Wood's Little Wonder, the best beast in the show. Young Biddenham then came on to the Smithfield Club Meeting, where in the certainly "crack" class he was only highly commended, Lord Aylesford's steer, the best animal of his year, being first, Mr. Wood's Little Wonder second, and a steer of Lord Penrhyn's third. Still one of the judges said, "if kept on for another year, this very stylish steer will

be sure to command a foremost place." Mr. Pulver thence travelled his beast on to Leeds, where he won in his class, but never was in it when the judges came to find the best animal in the yard. During the past summer and autumn he took invariably first prizes for fat stock at Peterborough, Royston, Hinckley, and Wellingborough; as at Oakham in the early part of last week he was not only the first of his class, but the best beast in the show. He had thus "run through" many of the animals he met in his own class at Birmingham. Lord Spencer's long, straight, and "staring"-white ox, his second at Oakham, was now unnoticed; Colonel Reeves's good useful red beast, the Reserve at Oakham, was, as we thought, the Reserve here; and Mr. Rowland Wood's commended entry has often previously been beaten by the winner. It so happened that in a very mixed lot, with some wretched things sent up from all parts of the world, the second prize went to a clever deep and square steer, bred not by Mr. Richard Stratton but Mr. Joseph Stratton, and unquestionably the next best, but not so well made up for show as he might have been; while a Scotch ox of nice quality, but with his tail badly set on, just beat the Grantham red for third, although it will always be a near thing between them. The Shorthorn steers were a still more moderate lot, of which Mr. Robert Searson's white, the first in his class at Oakham, looked to have the most promise of framing out into a good beast, but he was not so forward as Lord Aylesford's short podgy steer, with a head stuck in or on to his back, set off by bad outstanding shoulders, which the judges accordingly put first, possibly for quality but certainly not for symmetry. When it came to naming the best of all the Shorthorns the authorities paid the cow classes the equivocal compliment of not having the winner out again, a nice thriving cow nevertheless, that has been backing Mr. Mumford's luck of late by winning all about the country. Lord Feversham's second is plain and patchy, but of high quality, and Lord Anglesey's third, the best at Walsall, grown so out of form into excrescence, that it is difficult to understand how any man with "an eye" could ever give her a prize. We are not quite so sure, after all, but that Mr. Reid's Scotch Shorthorn heifer, so straight, deep, and handsome, or Lord Dunmore's very successful cross, quite "pretty" in her looks, and yet with a great long well-furnished frame, was, one or the other, the best of all the cows and heifers; as there were four or five good Shorthorn heifers in the class, but with all the honours going North, and Mr. Wood's best at Oakham altogether overlooked here. Dowager was now, however, in very different company.

According to the prize list the general merit of the Devons was something extraordinary. There were, for the four classes, in all some sixteen or seventeen shown, with scarcely one of these but that received some compliment from the judges. Thus, in the only class where there was anything like competition, that of the oxen or older steers, three commendations were appended to the three prizes; the winner as usual coming from Mr. Smith, of Exeter. This is a big meaty well-covered steer, with capital flesh, but by no means so smart nor so blood-like as a North Devon should be; while the second best is a commonish but passable animal, that either for breeding or feeding did not look to be the superior of Mr. McNiven's third prize, or even of the high commendation. The judges, moreover, never took these classe

into the central avenue of the Hall, but went over the entries as they stood—an injustice alike to themselves, the spectators, and the exhibitors, as it is next to impossible to get a proper notion of any animal until you see him fairly out, let alone the bad “effect” of judging after this hole and corner fashion. There were only three younger steers, and only one good, a very smart beast from the famous Broughton pastures in the Aylesbury Vale, said through a mistake of his breeder, Mr. Baker, to be entered at three years and six weeks instead of three years and six months old. In the succeeding class of cows, Mr. Walter Farthing having lost his cow put one of his prize heifers in her place, that was merely commended, the winner being a very true high-bred cow from the herd of Mr. Newbery, but exhibited by Mr. McNiven. The two other prize cows were of not so much mark; but the three prize heifers were all good, the first and second especially so, although at breeding shows Daisy has beaten the Royal Adelaide before now. Still the pick of the three was unquestionably Perfection, who, but for her falling away a little in her quarters, went far to realize her title. She has lots of style, a sweet head, a long, straight, well-covered frame, with a good touch, and heavy accordingly is the wagering that she will be first, and first both in Birmingham and in London. But still she was not the best of all the Devons, nor even of the Devon cows and heifers, and perhaps Lady 2nd might fairly compete with her; but if it ever does come to a champion from this lot of Devons in London we certainly do not expect to see Mr. Smith's steer again at their head.

It will be so gathered that if there were any great merit in Mr. Pulver's ox, he could have no difficulty in his path so far. And he has indisputably great merit in many ways. He is a smart rich roan in colour; he is a compact square rather than an overwhelming animal; he has fed so well that his flesh does not seem to encumber him as it does many a fat beast, but he has a cheerful look and gay carriage, as it is not until you see him out that he moves after a somewhat awkward ungainly fashion. He has an especially good forehead, is well ribbed up, and straight and square in his outline, but bad in his purse, having suffered terribly from castration, and standing rather weak from behind. Of course he was not only at a glance the best of his class, being ordered in very early, but as easily the best of his breed; and although Mr. George Turner held out afterwards, the other judges and the lookers on only smiled, as the pretensions of Mr. Smith's Devon when put in comparison with the Shire Shorthorn made it something like a horse to a hen. However, Mr. Turner did his duty to his county as he did when it came to the best of all, and, as everybody else had seen long previously, the Shorthorn eventually took every prize there was to be taken, as he goes on to Islington for the Champion Plate, and again to Leeds in competition for a similar premium. Good as he is, comparatively, we do not regard the further success of Young Biddenham as by any means a certainty, for he falls just short of being a grand beast when you meet him, and if anything at Birmingham should close up with him again, there will be more danger to fear from the North than from the West, despite the best cow and Mr. Turner's unqualified admiration of the Exeter steer.

“From Tillyfour will undoubtedly go the heaviest fat polled bullock that will be shown in Bingley Hall and Smithfield this year. This animal is a five-year-old, and a full brother to the famous Black Prince, that carried everything before him in these two exhibitions, and went, by desire of Her Majesty, to Windsor for the Queen's inspection. The Tillyfour ox of 1870, however, is not considered so fine an animal, but he is quite as fat, and of exactly the same girth—9 feet 10 inches. In the heifer classes Mr.

M'Combie will show Bess, now four years old, and bred by Mr. Skinner, Drumin, Ballindalloch. This animal carried the first prize as a two-year-old heifer at the Highland Society's Show at Aberdeen in 1868, when the property of the breeder. She was purchased by Mr. M'Combie in the Autumn of that year, at a high figure, for breeding purposes. She had not proved a breeder, however, and is now considered a model heifer.” We were enabled to say so much in our last week's number, and *The Scotsman* was well-advised, for the brother to Black Prince has little beyond his size in his favour, and he took no prize; whereas the cow is as true and level as a die, and as handsome as a picture; and though she may have failed at the herd, she is a great success in the stalls—a greater, perhaps, than they quite considered her in Bingley Hall on Saturday. The same authority enabled us to forewarn our readers that “Mr. Heath Harris, of Earnhill, has catalogued for Smithfield two perfectly-shaped and highly-fed, but not heavy animals. One of these is the three-year-old polled bullock which carried off so many first prizes at the Highland Society and other shows while in the possession of the breeder, Mr. Bruce, Newton of Struthers, and also the cup at Forres last December, where Mr. Harris bought him for 100 guineas. The heifer, a Shorthorn, from Earnhill, is the two-year-old roan Shorthorn bred by Mr. Harris, and which won the medal at Forres last year, and the second prize at Elgin last summer.” And the ox from Earnhill duly won in his class, uniting fine quality with great symmetry, and timed almost to a day. When, then, having disposed of “the best fed and bred,” the judges had to select the best of all the steers, and the Shorthorn was opposed by the Scotch polled and the Scotch cross, it looked a deal more like a matter for “nice argument” than it had been with the over-rated Devon. Not that Messrs. Martin's cross, all after the Shorthorn in his character, was so very formidable, as he is slack in his back and an up-and-down beast at best; but the Scot is an animal of quite another colour, and if we named any two entries of any one breed to do even better in London we should take Mr. Harris' ox and Mr. McCombie's cow. It is questionable, indeed, whether the services of a North country judge should not occasionally be secured, as the lowland men seemed to go all wrong over the West Highland cattle, Lord Southesk's second being full of fine national character, a truly handsome, and hardy mountaineer; while the one put above him is a sour-headed plain beast with more flesh and nothing else in his favour. Those other Longhorns, once the pride of our Midlands, were carefully stowed away into two odd corners, where the judges made short work of their merits, and where we only saw them by accident. They reached to eight entries in all, and to one of the Welsh breeds.

History repeats itself at Birmingham, at any rate in recording a sheep show; and Lord Walsingham's smart Southdowns and Lord Berner's fine Leicesters year after year continue to take all the chief prizes. Then, few of the famous Hill-men ever make an entry, and anyone who chooses to send on wins with Cotswolds, as Mr. Hall of Barford did, with some nice sorty pens of some character. The few lots of useful Oxfords were so befouled with nastiness that the judges and everyone else declined to subject them to the ordeal by touch; and the “other” crosses were not so remarkable for merit as we had been led to expect. These experiments generally show stronger in London. There were two or three entries of Hampshire Downs, with scarcely any competition in any of the breeds for the classes of single ewes. Noticeably enough in these getting-about times one of the sheep judges, Mr. Rigden, had never previously been in Bingley Hall,

where nothing struck him more than the show of Shropshire, nor can we remember them so good for some time past. There was more uniformity, and though Lord Cheaham maintained his lead and won in both classes, his sheep had more of the Shropshire and less of the South-down in their appearance, as they are now fast realising the type of what an "Improved" Shropshire should be. The small class of old wethers was of especial excellence, but the sheep in Mrs. Beach's reserve pen were not cleverly matched, with here a dark and there a light face. The Lincolns were not numerous, but they were mostly good, what with their fine wool, great size, and "breedy" looks.

With the exception of the class of large breeding pigs, this section of the show was better than usual, with some of the entries of especial excellence. The best single fat pig was, for instance, one of the best out for many a long day; so good all over, indeed, as to be considered to possess within six of the several points at which Mr. Fisher puts a perfect pig, on this scale: Head and ears, 8; crest and shoulders, 8; ribs and loins, 12; hind quarters, 10; hams, 12; chest, 10; fore ribs and flank, 15; legs and feet, 10; hair and colour, 10; tail, 5; size, 10. Although exhibited by the Duckerings, this is quite a chance pig, as the breeder is unknown, and the age put at "about" eighteen months. Not that this has apparently much to do with it, for as a well-known man has it "in judging a pig I never take age into much account, as this as is likely to be put wrong as right," and no doubt the examination is little more than an amusing farce, as the occasional disqualifications and subsequent protests so continually testify. Beyond the first prize there were a number of good pigs in this class, with Mr. Peter Eden taking both second and third, the younger of the two, otherwise very true in his frame, being a trifle too long in his body. In the pens of three fat pigs the Messrs. Duckering had again the best of all, with some of their own sort, Her Majesty being a good second in both of these classes, as the white Windsors promise to be coming back to their old form. Mr. Cartwright, on the contrary, could get no nearer than third in a class of three entries, but one of his team died a short time since, and an odd lot from the same litter had to be put forward in his place. These entries, however, were all unmistakeably good with the Reverend Henry Baily's Berkshires as the best; as the Swindon pigs have long been esteemed by judges out of the show, though they have never, so far, been very successful in public. The pens of breeding Berkshires supplied the best class in the Hall, and one which narrowly escaped a general commendation. So meritorious were some of these that the judges rather divided over the use and size of Mr. Fowler's litter, and the finer quality of Mr. Smith's pen. Then Mr. Humphrey's sample was very nearly as good; and there were in fact plenty of prize pigs to be bought and sold in what seemed to be a brisk market. The Messrs. Howard, of Bedford, were unable from a suspicion of disease to send any of their entries, and the class of large white breeding pigs was, as we have said, very moderate or more positively indifferent, the first and second prizes going to exhibitors not hitherto much distinguished in this way. The small breeding pigs, on the contrary, with Mr. Eden still in the ascendant, were very nice, as a small pig is always more pleasing to the eye than a large one. The Manchester sort, moreover, were just separated in the return list by Mr. George Turner, junior's, pretty blacks; while Mr. Matthew Walker had to be content with an extra medal. But then, in good company, anything is worth having.

Considering that the past season was most unfavourable for the cultivation of roots the display upon the whole is remarkably good. The mangolds are an extraordinary show, the globes being better than we ever remember to have

seen them in Bingley Hall. The swedes, kohl rabi, and carrots are very meritorious, but common turnips, with one or two exceptions, are very moderate; while the ox cabbage is as poor as anything could be, the best three specimens weighing only 85 lbs. against over 160 lbs. last year. The entries for the two cups given by Messrs. Proctor and Ryland, and Sutton and Sons, compose an exhibition in themselves, the prizes being closely contested. The aggregate weight of the collection from Mr. Hicken, that won Messrs. Proctor's cup, was 436½ lbs., viz.: 6 long mangolds, 212½ lbs.; 6 globes, 181 lbs.; and 6 swedes, 43 lbs. The weight of the prize collection for Messrs. Suttons' cup was 454 lbs., the 6 long mangolds being 194½ lbs.; 6 globes, 142½ lbs.; 6 swedes 36 lbs.; 6 kohl rabi 42½ lbs.; 6 turnips, 38½ lbs. The prizes for the class of mangolds and swedes were all awarded to roots of a superior quality, but of less weight than many of the other entries. In corn, the wheat, both red and white, is remarkably good; but oats and peas, with the exception of the white peas, are very indifferent, the prizes being withheld in several classes for want of merit.

The potatoes this year are remarkable both for extent and quality, there being 185 entries, nearly the whole of which were sent. In the classes for named varieties were excellent specimens of all the best kidneys; while King's Milky Whites, Flukes, Red Regents, and Paterson's Victoria were all exceedingly well represented, the latter especially so. There were no less than 47 entries in the class for any other named variety, and the judges had great difficulty in awarding the four prizes at their disposal. This class was a show in itself, and included many of the American potatoes which have been introduced during the last two or three years, and that for quality and productiveness deserve the attention of English growers. Some remarkable specimens of the "Bovina," or cattle-feeding potato, were also exhibited.

We append the weights of the principal pens in those classes of poultry which will be most likely to interest our readers: Ducks, white, Aylesbury, drake and duck, first, 18lbs. 9oz.; second, 18lbs.; third, 17lbs. 6oz.; fourth, 18lbs. 4oz. Rouen, drake and duck, first, 19lbs. 4oz.; second, 10lbs. 6oz.; third, 18lbs. 2oz.; fourth, 17lbs. 4oz. Geese, white, exceeding one year, gander and goose, first, 58lbs. 12oz.; second, 56lbs. 5oz.; ditto, birds of 1870, first, 49lbs. 4oz.; second, 49lbs. Grey and mottled gander and goose, exceeding one year, first, 62lbs. 6oz.; second, 54lbs. 6oz.; ditto, birds of 1870, first, 53lbs. 6oz.; second, 49lbs. 1oz. Turkeys, cocks, over one year, first, 36lbs. 4oz.; second, 35lbs. 2oz.; ditto hatched 1870, first, 24lbs. 6oz.; second, 23lbs. 12oz.; hens, exceeding one year, first, 31lbs. 4oz.; second, 29lbs. 1oz.

PRIZE LIST.

CATTLE.

JUDGES.—R. J. Newton, Campsfield, Woodstock.
Stiles Rich, The Cedars, Worcester.
George Turner, Bramford Speke, Exeter.

HEREFORDS.

OXEN OR STEERS.—First prize, £15, silver medal as breeder, Philp Turner, Leen, Pembridge, near Leominster; second, £10, Wm. Heath, Ludham Hall, Norwich; third, £5, Her Majesty, the Queen, Windsor Castle. Commended: Henry Bettridge, East Hanney, Wantage, Berks.

STEERS.—First prize, £15, silver medal as breeder, extra prize of £10 10s., given by the ex-Mayor of Birmingham for best Hereford bred by the exhibitor, extra prize of £20 for best Hereford, Benjamin Cocks, Tugford, Munsalow, Salop; second, £10, Benjamin Cocks; third, £5, John Price, Court House, Pembridge. Commended: Richard Shirley, Bancott, Munsalow, Church Stretton.

Cows.—First prize, £15, silver medal as breeder, Thomas Instone, Bourton, near Much Wenlock, Salop; second, £10,

Herbert Ridgley, Steventon, near Ludlow; third, £5, Thomas Rodgers, Coxall, Brampton Brian, Herefordshire. Commended and reserve: Richard Hill, Orleton Court, Ludlow.

HEIFERS.—First prize, £15, silver medal as breeder, H. M. The Queen; second, £10, James Wm. James, Mappowder, Court, near Blandford, Dorset; third, £5, John Baldwin, Luddington, Stratford-on-Avon. Commended and reserve; Richard Henry Ridler, Gattertop, Hope-under-Dinmore, near Leominster.

SHORTHORNS.

OXEN OR STEERS.—First prize, £15, silver medal as breeder, President's Silver Cup, of £25, for best ox or steer, bred and fed by exhibitor, Earl of Aylesford's extra prize of £15 for best Shorthorn, bred and fed by exhibitor; Hotel and Innkeepers' of Birmingham Silver Cup, of 25 gs., for best animal in the cattle classes; extra of £20, for best Shorthorn; and Gold Medal, value £20, for best ox or steer of any breed or age, Thomas Pulver, Broughton, Kettering; second, £10, Joseph Stratton, Manningford Bruce, near Marlborough, Wilts; third, £5, Messrs. J. W. Martin, Aberdeen. Commended: Rowland Wood, Clapton, near Thrapston.

STEERS.—First prize, £15, silver medal as breeder, Earl of Aylesford, Packington Hall, Coventry; second, £10, Robt. Searson, Cranmore Lodge, Deeping St. James, Market Deeping; third, £5, Joseph Stratton, Manningford Bruce; Reserve, Thos. Walker, Berkswell Hall, Coventry.

COWS.—First prize, £15, John Aubrey, Mumford, Chilton Park Farm, Thame, Oxon; second, £10, Earl of Feversham, Dancombe Park, Helmsley, York; third, £5, Marquis of Anglesey, Beaudesert, Staffordshire; Reserve, Alex. Brogden, M.P., Lightburn House, Ulverstone, Lancashire.

HEIFERS.—First prize, £15, James Reid, Graystone, Alford, Aberdeenshire; second, £10, John Hunter, Dipple, Fochabers; third, £5, Sir Walter C. Trevelyan, Wallington, Northumberland; Reserve, Richard Heath Harris, Earn Hill, near Forres, Morayshire.

DEVONS.

OXEN OR STEERS.—First prize, £15, silver medal as breeder, extra prize, £20, for the best Devon, Wm. Smith, Hooper, Exeter; second, £10, Wm. B. Shacklady, Upton Court Farm, Slough, Bucks; third, £5, C. McNiven, Perrysfield, Oxted, Godstone, Surrey. Highly commended: Edward Trood, Bowhay, Exminster, Devon. Commended: Trevor Lee Senior, Broughton House, near Aylesbury; Walter Farthing, Stowey Court, Bridgewater, Somerset.

STEERS.—First prize, £15, Trevor Lee Senior, Broughton House, near Aylesbury, Bucks; second, £10, Her Majesty the Queen; third, £5, Wm. Smith, Hooper, Exeter, Devon.

COWS.—First prize, £15, extra gold medal value £20 for best cow or heifer of any breed or age, C. McNiven, Perrysfield, Oxted, near Godstone, Surrey; second, £10, W. M. Aldworth, Frilford, near Abingdon; third, £5, Wm. Smith, Hooper, Exeter. Highly commended: Walter Farthing, Stowey Court, Bridgewater, Somerset.

HEIFERS.—First prize, £15, Trevor Lee Senior, Broughton House, near Aylesbury, Bucks; second, £10, Her Majesty the Queen; third, £5, Richard Burton, Place Barton, Broadclyst, Devon.

LONGHORNS.

OXEN OR STEERS.—First prize, £10, and silver medal as breeder, Sir John Harpur Crewe, Calke Abbey, Derbyshire; second, £5, John Godfrey, Wigston Parva, Hinckley. Highly commended, Joseph Holland Burbury, The Chase, Kenilworth.

COWS OR HEIFERS.—First prize, £10, and silver medal as breeder, W. T. Cox, Spondon Hall, Derby; second, £5, Thomas Satchwell, Knowle.

SCOTCH BREEDS.

POLLED OXEN OR STEERS.—First prize, £15, and extra-prize of £20 for the best Scot, Richard Heath Harris, Earnhill, near Forres, Morayshire; second, £10, William Drysdale, Kilrie, Kinghorn, Fifeshire. Highly commended, and extra-prize of 10 guineas given by C. Ratcliff, Esq., for the best Scot bred by the exhibitor, William McCombie, M.P., Tillyfour, Aberdeen.

WEST HIGHLAND OXEN OR STEERS.—First prize, £15, Sir Walter C. Trevelyan, Wallington, Northumberland; second, £10, Earl of Southesk, Kinnaird Castle, Brechin,

Forfarshire. Highly commended, Duke of Sutherland, Dunrobin Castle; commended, Robert Mowbray, Cambus, Stirling.

SCOTCH COWS OR HEIFERS.—First prize, £15, Wm. McCombie, M.P., Tillyfour, Aberdeen; second, £5, James Bruce, Burnside, Fochabers, N.B. Highly commended: Sir Walter C. Trevelyan, Wallington. Commended: James Reid, Graystone, Alford, Aberdeenshire.

WELSH BREEDS.

OXEN OR STEERS.—First prize, £15, Sir Chas. E. Isham, Lamport, Northampton. Only one entry.

OTHER PURE BREEDS AND CROSS-BRED ANIMALS.

FAT OXEN OR STEERS.—First prize, £15, Messrs. J. and W. Martin, Aberdeen; second, £10, Lord Dunmore, Dunmore, Stirling, N.B.; third, £5, Hy. Bettridge, East Hanny, Wantage, Berks. Highly Commended: James Stephen, Conglass, Inverurie, Aberdeen.

FAT COWS OR HEIFERS.—First prize, £15, Lord Dunmore; second, £10, Alexander Cowie, Crombley Bank, Ellon, Aberdeenshire; third, £5, Sir Walter C. Trevelyan, Wallington. Highly commended: Lord Fitzhardinge, Berkeley Castle, Gloucestershire.

EXTRA CLASSES.

For animals not qualified to compete in any of the preceding classes.

OXEN OR STEERS.—No entry.

COWS OR HEIFERS.—Prize £5 and silver medal, as breeder, H. M. The Queen (Shorthorn). Reserve: W. T. Cox, Spondon Hall, Derby (Shorthorn).

SHEEP.

JUDGES.—F. Spencer, Alma House, Claybrooke, Lutterworth. Wm. Rigden, Hove, Brighton. John Evans, Uffington, Shrewsbury.

LEICESTERS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, silver medal as breeder, extra prize of £10 given by linen and woollen drapers of Birmingham, Lord Berners, Keythorpe Hall, Leicester; second, £10, Lord Berners; third of £5, Wm. Perry Herrick, Beaumanor Park, Leicestershire. Reserved and highly commended: Wm. Brown, Highgate House, Holme-on-Spalding Moor, York.

LINCOLNS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, and silver medal as breeder, and linen and woollen drapers, extra £10, S. W. D. Harris, Wootton, Northamptonshire; second, £10, Chas. Lister, Coleby Lodge, near Lincoln; third of £5, John Pears, Mere, Lincoln. Highly commended: John Byron, Kirkby Green, Sleaford, Lincolnshire.

COTSWOLDS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, silver medal as breeder, linen and woollen drapers' extra prize of £10, Richard Hall, Great Barford, Oxon; second, £10, Richard Hall; third, £5, John Baldwin, Luddington, Stratford-on-Avon; Reserve, John Wheeler, Long Compton, Shipston-on-Stour.

SOUTH DOWNS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, silver medal as breeder, and Mr. Bromley Davenport's extra prize of 10 guineas, Lord Walsingham, Merton Hall, Thetford, Norfolk; second, £10, third, £5, Lord Walsingham. Reserve and highly-commended: Col. Kingscote, C.B., M.P., Kingscote, Wotton-under-Edge. Commended: Prince of Wales, Sandringham; Lord Sondes, Elmham Hall, Thetford, Norfolk.

SHROPSHIRE.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, silver medal as breeder, and Mr. Newdegate's silver cup value 10 guineas, Lord Cheham, Latimer, Cheham, Bucks; second, £10, Wm. Yates, Grindle House, Shifnal; third, £5, Lord Wenlock, Escrick Park, near York. Reserve and highly-commended, Mrs. Beach, The Hattons, Brewood, Penkridge. Commended: Samuel Craven Pilgrim, The Outwoods, Burbage, Hinckley.

Silver cup, value 10 guineas, given by Messrs. Mapplebeck

and Lowe, for best pen of three fat Shropshire wethers, exceeding 22 but not exceeding 34 months old, and silver medal as breeder, Lord Cheaham, Latimer, Cheaham. Reserve and highly commended: Mrs. Beach, The Hattons, Brewood. Highly commended: Lord Wenlock, Eecrick Park; William Orme Foster, Apley Park, Salop.

OXFORDSHIRE.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, and silver medal as breeder, and extra prize of £10, given by linen and woollen drapers of Birmingham, Nathaniel Stilgoe, Adderbury Manor Farm, Banbury; second, £10, Zachariah W. Stilgoe, Adderbury Grounds, Oxon; third, £5, Nathaniel Stilgoe. Reserve and highly commended, Geo. Street, Maulden, near Amptill, Bedfordshire.

SHEEP NOT QUALIFIED TO COMPETE IN ANY OTHER CLASS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, and silver medal as breeder, Alfred Morrison, Fonthill House, Tisbury, Wilts; second, £5, J. B. Downing, Holme Lacy, Hereford. Reserve, Alfred Morrison.

CROSS BREEDS.

THREE FAT WETHERS, not exceeding 22 months old.—First prize, £15, and silver medal as breeder, Matthew E. Jones, Wellingboro' Lodge, Northamptonshire; second, £5, Zachariah W. Stilgoe, Adderbury Grounds, Oxon. Reserve and highly commended: Henry Purser, Willington Manor, Bedford. Highly commended: Colonel Lloyd-Lindsay, M.P., Lockinge Park, Wantage, Berks.

EWES.

FAT LEICESTER EWE, having bred one or more lambs.—Silver medal, Wm. Shipman, Eaton Lodge, Eastwell, Melton Mowbray, Leicestershire.

FAT LINCOLN EWE, having bred one or more lambs.—Silver medal, John Pears, Mere, Lincoln.

FAT COTSWOLD EWE, having bred one or more lambs.—No merit, prize withheld.

FAT SOUTHDOWN EWE, having bred one or more lambs.—Prize withheld, no merit.

FAT SHROPSHIRE EWE, having bred one or more lambs.—Silver medal, G. A. May, Elford Park, Tamworth. Commended, Mrs. Beach, The Hattons, Brewood.

FAT OXFORDSHIRE EWE, having bred one or more lambs.—Silver medal, John Tredwell, Upper Winchendon, Aylesbury, Bucks.

FAT EWE of any other pure breed.—[No entry].

FAT PIGS.

JUDGES.—Samuel Druce, Eynsham, Oxon.

John Fisher, Carhead, Crosshills, Yorkshire.

John Dale, Spetchley, Worcester.

THREE FAT PIGS, of one litter, not exceeding 10 months old.—First prize, £10, silver medal as breeder, Rev. H. G. Baily, Swindon; second, £5, Her Majesty the Queen; third, £3, Thos. Leslie Melville Cartwright, Melville House, Fife and Newbottle, Northamptonshire.

THREE FAT PIGS of one litter, not exceeding 15 months old.—First prize, £10, silver medal as breeder, and silver cup, value 5 guineas, for best pen of fat pigs, R. E. Duckering and Son, Northorpe, Kirton-Lindsey; second, £5, Her Majesty the Queen; third, £3, Earl of Aylesford, Packington Hall, Coventry.

FAT PIG, exceeding 15 months old.—First prize, £6, R. E. Duckering and Son, Northorpe, Kirton Lindsey, Lincolnshire; second, £4, Peter Eden, Cross Lane, Salford, near Manchester; third, £3, Peter Eden. Highly commended: Thomas Bantock, Merridale House, Wolverhampton. Commended: John Spencer, Villiers Hill, Kenilworth; Matthew Walker, Stockley Park, Anslow, Burton-on-Trent.

BREEDING PIGS.

BERKSHIRES.

FIVE PIGS, of one litter, exceeding 3 and not exceeding 6 months old.—First prize, £10, silver medal as breeder, and silver cup, value £5 6s., for best pen of Berkshires, Richard Fowler, Broughton Farm, near Aylesbury, Bucks; second, £5, Joseph Smith, Henley-in-Arden; third, £3, Heber Humfrey, Kingstone Farm, Shrivenham, Berks; silver medal, John

Spencer, Villiers Hill, Kenilworth. Commended: Russell Swanwick, Royal Agricultural College Farm, Cirencester and Heber Humfrey.

PIGS OF OTHER LARGE BREEDS.

FIVE PIGS, of one litter, exceeding 3 and not exceeding 6 months old.—First prize, £10, silver medal as breeder, John Wheeler, Long Compton, Shipston-on-Stour; second, £5, Hy. Robson, Penkridge; third, £3, R. E. Duckering and Son, Northorpe.

PIGS OF A SMALL BREED.

FIVE PIGS OF ONE LITTER, exceeding 3 and not exceeding 6 months old.—First prize, £10, silver medal as breeder and silver cup, value 5 guineas, Peter Eden, Cross Lane, Salford; second, £5, George Turner, jun., Alexton Hall, Uppingham; third, £3, Peter Eden; silver medal, Matthew Walker, Stockley Park, Anslow, Burton-on-Trent.

REFEREE FOR AGES OF STOCK.—Professor Gamgee, 1, Great Winchester-street Buildings, London, E.C.

VETERINARY INSPECTOR.—E. Stanley, 35, Islington, Birmingham.

CORN.

JUDGES.—E. Davenport, Quadrant, Birmingham.

Isaac Kempson, Lionel-street, Birmingham.

TALAVERA WHEAT, sample of 1 bushel.—First prize, £2, F. Lythall, Spittal Farm, Banbury; second, £1, S. Robinson, Shaw House, Melbourne, Derbyshire.

WHITE WHEAT, any other variety, sample of 1 bushel.—First prize, £2, G. A. May, Elford Park, Tamworth (Chidham); second, £1, J. Greatorox, Stretton, near Burton-on-Trent.

RED WHEAT, 1 bushel.—First prize, £2, F. Lythall (Nursery); second, £1, T. Horley, jun., The Fosse, Leamington (Nursery). Highly commended, J. Greatorox (Lammas).

BARLEY, sample of 1 bushel.—First prize, £2, G. J. Mitchell, Newton Mount, Burton-on-Trent (Chevalier); second, £1, J. H. Clark, Altwood, Maidenhead (Chevalier).

OATS, White, 1 bushel.—First prize, £2, F. Lythall (Australian); second, £1, H. E. Raynbird, Basingstoke (Pedigree Canadian).

OATS, Black, 1 bushel.—Prize, £2, F. Lythall (Polands).

BEANS, sample of 1 bushel.—First prize, £2, F. Lythall (French eyes); second, £1, J. K. Fowler, Prebendal Farm, Aylesbury.

PEAS, White, sample of 1 bushel.—First prize, £2, F. Lythall (Banbury prize-takers); second, £1, Joseph H. Clark, Altwood (Ringwood marrow).

PEAS, Blue, sample of 1 bushel.—Commended: F. Lythall.

ROOTS.

JUDGES.—J. Mathews, Edgbaston, Birmingham.

J. H. Burbery, The Chase, Kenilworth.

R. H. Masfen, Pendeford, Wolverhampton.

T. B. Wright, Quarry House, Great Barr.

A silver cup of five guineas, given by Proctor and Ryland for best collection of long mangold wurzel, globe mangold wurzel, and swedes, six roots of each to be shown for this prize alone.—John Hicken, Dunchurch, Rugby.

Sutton and Son's silver cup, value 5 gs., for best collection of six long mangolds, six globe or intermediate mangolds, six purple-top swedes, six kohlrabi, and six turnips.—Marquis of Ailesbury, Home Farm, Savernake Forest, Marlborough, Wilts.

Kohlrabi (six specimens).—First prize, £2, Geo. Fleming, Groundalaw Farm, Stone (Sutton's improved green German); second, £1, Colonel J. S. North, Wroxton Abbey, Banbury. Commended: Anthony Tustain, Great Barford, near Deddington, Oxon; Colonel North.

LONG MANGOLD WURZEL (six specimens).—First prize, £2, with £2 2s. added by Proctor and Ryland, Sir Frederick Smythe, Acton Burnell, near Shrewsbury (Sutton's long red mammoth); second, £1, Hy. Allsop, Hindliss Hall, near Worcester (Sutton's mammoth red). Highly commended: Marquis of Ailesbury; John Moore, Warwick and Long Itchington; John Moore, Wm. Dickinson, New Park, Lynton, Hants. Commended: W. R. Boxall, Strathfieldsaye, Winchfield, Hants (Sutton's long red); John Hicken, Dunchurch.

GLOBE AND INTERMEDIATE VARIETIES OF MANGOLD WURZEL (six specimens).—First prize, £2, with £2 2s. added by Proctor and Ryland, Sir Frederick Smythe, Acton Burnell

(Peter's yellow globe); second, £1, John Hicken. Highly commended: Thos. Keen, Great House, Moore, near Glastonbury (Impey's Defiance yellow globe); John Baker, Witham Farm, near Somerton, Somerset (Impey's Defiance yellow globe). Commended: Thos. Gunnell, Willow House, Milton, Cambridge; Hy. Allsop, Hindliss Hall (Sutton's yellow globe); Geo. Fleming, Grownalow, Stone (Sutton's Berkshire prize variety); John Moore, Warwick; Wm. Dickinson, New Park, Lymington; Chas. West, Flowers Farm, Pangbourne; Col. North.

SWEDES OF ANY VARIETY (six specimens).—First prize, £2, and extra £2 2s., Wm. B. Boxall, Strathfieldsaye, Winchfield (Danger's Champion); 2nd, £1, R. Shirley, Bancott, Munslow, Church Stretton, Salop (Drummond's Improved). Commended: T. Hinks, Halford, Shipston-on-Stour, Worcestershire (Purple Bark).

COMMON TURNIPS, white flesh (six specimens).—First prize, £2, Hy. Woods, Clipston-park Farm, Mansfield (Green Barrel); 2nd, Hy. Woods (Green Barrel).

COMMON TURNIPS, yellow flesh (six specimens).—First prize, £2, James Stephen, Conglass, Inverurie, Aberdeen (Green-top Aberdeen yellow); 2nd, £1, Wm. McCombie, Tillyfour.

CARROTS OF ANY VARIETY (six specimens).—First prize, £2, Hy. Woods, Altrincham; 2nd, £1, Wm. Dickinson, New Park (white Belgian). Highly commended: Geo. Fleming (Long red). Commended: Antony Tustain, Great Barford, near Deddington, Oxon (Long red).

Ox cabbage (three specimens).—First prize, £2, R. Hall, Great Barford; second, £1, G. Greatorox, Stretton (Robinson's Champion Drumhead).

POTATOES.

Ashleaf kidneys (twelve specimens).—First prize, 15s., F. Lythall; second, 10s., C. J. Perry, The Cedars, Castle Bromwich. Highly commended: A. Tustain, Great Barford.

River's Royal ashleaf kidneys (twelve specimens).—First prize, 15s., H. Woods; second, 10s., J. Choyce, Pinwall Grange, Atherstone. Commended: F. Lythall.

Gloucestershire kidneys (twelve specimens).—First prize, 15s., Z. W. Stilgoe; second, 10s., T. Barnett, Walford, Herefordshire. Commended: J. Choyce, C. J. Perry.

Daintrees' first early (twelve specimens).—First prize, 15s., C. J. Perry; second, 10s., J. Choyce.

King of potatoes (twelve specimens).—First prize, 15s., C. J. Perry; second, 10s., G. A. May, Elford Park. Highly commended: J. Choyce, J. K. Fowler, Aylesbury. Commended: J. Choyce.

Wheeler's milky white (twelve specimens).—First prize, 15s., J. C. Wheeler and Son, Gloucester; second, 10s., E. Freer, The Grange, Ward End, Birmingham. Commended: John Choyce.

Flakes (twelve specimens).—First prize, 15s., Z. W. Stilgoe; second, 10s., C. J. Perry. Commended: John Lynn, Church Farm, Shoxton, Grantham; J. K. Fowler.

Dalmahoy's (twelve specimens).—First prize, 15s., Hy. Woods; second, 10s., John Choyce. Highly commended: Anthony Tustain; John Choyce. Commended: Hy. Woods.

Red regents (twelve specimens).—First prize, 15s., Anthony Tustain; second, 10s., Mr. Sumner, High-street, Birmingham. Highly commended: C. J. Perry. Commended: John Choyce; John Lynn.

Paterson's Victoria (twelve specimens).—First prize, 15s., Geo. Mangles, Great Givendale, Ripon, Yorkshire; second, 10s., W. Birch, Barnacle, Coventry. Commended: Samuel Robinson, Shaw House, Melbourne, Derbyshire; Russell Swanwick, Royal Agricultural College Farm, Cirencester.

Skerry Blues (twelve specimens).—First prize, 15s., Anthony Tustain; second, 10s., John Choyce. Highly commended: Henry Woods.

Any other named variety.—First prizes 15s. each, John Choyce (Red Fluke); Charles Felton, Birmingham Nursery (President Lincoln). Second prizes 10s. each, W. Birch, Barnacle, Coventry (Climax); Sir T. Smythe (Lopstone Kidney). Highly commended: Hy. Woods (Dunbar Regents); Sir Wm. Heathcote, Hurley Park, Winchester (Scotch Regents); John Choyce (Nuncaton Seedling); Wm. Birch, Barnacle, Coventry (Early Rose); Sir F. Smythe (American Red Seedling); Chas. Felton (Erdington Nonsuch). Commended: Anthony Tustain (No plus Ultra); Joseph Greatorox, Stretton (Red Kidney); Thos. Barnett, Walford, Herefordshire (Forty-fold); C. J. Perry (Edgecote Seedling); C. J. Perry (Red Emperors); Zach. W. Stilgoe (British Queen); Thos. Barnett (Paterson's Oxon).

CARMARTHENSHIRE FARMING.

At a meeting of the Carmarthenshire Farmers' Club, Mr. J. Lewis Philipps, Bolahaul, in the chair,

Mr. D. P. DAVIES, of Troedybryn, said: The district represented by the members of this club, geologically speaking, rests on the Upper Silurian, Lower Silurian, old red sandstone, limestone, coal-measure, and millstone grit, but the principal extent is on the Upper Silurian; and, however much the strata or the physical contour of the country may differ, there is one thing that affects us similarly—viz., the climate—which might be termed humid, because our valleys open to the S.W. to receive the Atlantic moisture, and our hills intercept it, and which collects in rain and descends in torrents, more especially on the eastern declivity. The climate to some measure might be improved, for draining has risen the temperature of some soils in this district nearly 15 degs. So, whoever intends to develop the capabilities of his land, must drain thoroughly, cultivate deeply, and return to the land the inorganic portion of his crops. And as plants obtain from the constituents of air and water only carbon, oxygen, hydrogen, and some nitrogen, the rest of their components—namely, all the mineral substances and the greater part of their nitrogen—must be supplied by the soil they grow in; and, as the life and development of an organic being cannot be regarded as depending on chance, for the same kind of plants require similar food in nearly the same quantities, it is evident therefore that, by continued cropping of the same soil by the same tribe of plants, without returning their mineral food to the land, the most fertile soil must ultimately become exhausted of the aliment necessary for that crop. Although the soil is no longer capable of producing remun-

erative crops of one kind, yet it might produce excellent crops of other kinds of plants having different demands on the soil and different habits of growth; for instance, the clover is introduced into the rotation because it is a plant capable of sending out roots to a great depth and distance in the soil in search of the materials of its structure, consequently it is highly useful for collecting together the small quantities of valuable materials scattered throughout a large bulk of soil. The surface is thus enriched and becomes better adapted for the growth of those classes of plants which, from the rapidity of their development, and for other reasons, are unfitted for searching extensively for their own food. Advantage ought to be taken in practice of the above facts by cultivating plants of different habits and requirements alternately; but no system of rotation, however complete or carefully carried out, can maintain the fertility of the land unless the mineral substances which have been abstracted from it in the crops carried away be restored. The following calculations show that the most prevalent system of farming is one of exhaustion; for instance, a farmer who cultivates his land in the ordinary way, and returns to the soil all the straw, hay, and green crops in the shape of manure, must be told that, although apparently he keeps up the fertility of his soil, such is not the case. I do not mean that farmyard manure, as far as it goes, does not restore fertility in a perfect manner to the land, and so enable it to produce the maximum amount of crop. For every two-year-old cattle of his own rearing such a farmer sells, he robs his land of no less than 120 lbs. of phosphate of lime, to say nothing of the valuable constituents of the flesh, blood, &c., which if burnt would give ash similar in composition to the

ash of plants. To make up this yearly loss in phosphates it is necessary to return to the land no less than 5 cwt. of guano, or some other auxiliary manure that would supply the deficiency. Again, let us calculate to what extent the dairy produce robs the soil. For every cwt. of cheese sold the farmer alienates 6lbs. of bone material, about 7½lbs. of nitrogen, and about half a pound of sulphur. The loss per acre by selling wheat (see Liebig's Modern Agriculture, page 218) is 28lbs. of ash constituents, of which 13 3-5ths lbs. is phosphoric acids, and 8 2-5ths lbs. is potash. Now these losses cannot be supplied by guano or superphosphate alone, for the proportion of potash in them is too small, but by mixing those manures with wood ashes the deficiency would be supplied. Let us then sum these losses and calculate what would be the total yearly loss of indispensable measures on a farm capable of producing for disposal five acres of wheat—grain produce. The produce of ten milch cows, ten two-year-old cattle weighing about 120 lbs. per quarter; therefore, according to the most modern data, a supply of 60 cwt. of pure Peruvian guano would be necessary to keep up the fertility of such a farm, provided of course that all the manure resulting from all the hay, straw, turnips, &c., produced be wholly returned to the soil. We say wholly returned, because on most farms in the district large quantities of the farmyard manure are wasted; in fact, the essence of the manure heap is often seen running away in that small continuous black stream into an adjoining brook or into other places, and lost to the farm. Having laid down my principles of farming, I will now proceed to discuss the practical details, and, as an illustration, I will take a farm of 100 acres, of ordinary quality, divided into 20 fields of five acres each, with a suitable and commodious homestead centrally situated. The stock on this farm should consist of two draught horses and a hackney, with occasionally another pair of stout horses, in order to be able to subsoil one field every year. One bull and ten cows of the black or any other approved pure breed, ten yearling cattle, and ten calves, 25 ewes and a ram of the Shropshire, Cheviot, or Cotswold, or whichever breed might be deemed most suitable; a breeding sow of the small breed, and a quantity of poultry. Half of the farm should be permanent pasture and meadow, and the other half or ten of the driest fields might be advantageously managed under a ten years' rotation as follows: 1st, oats; 2nd, vetches, peas, potatoes, mangold, and carrots; 3rd, wheat; 4th, turnips; 5th, oats or shiprys; 6th, barley; 7th, seeds; 8th, grass; 9th, grass; 10th, grass. I fancy that some may object to barley after oats; to them I would say forbear till I have explained myself, for I think they will agree with me that a finer sample of barley and better seeds would be the result of this plan than if barley with seeds had immediately followed turnips. The management of the different crops would be thus, viz.: 1st. Oats dressed with two tons of lime per acre, mixed with soil, and applied previous to ploughing, and the ploughing should be well done by a man and a pair of horses, followed by furrow presser, which leaves the land in ridglets ready to receive the seed. 2nd. Vetches, peas, potatoes, mangolds, carrots, &c., heavily dressed with dung, receiving at least two ploughings and the necessary cultivation. 3rd. Wheat, or "shiprys" if the land will not carry wheat. 4th. Swedes and turnips drilled in with 5 cwt. of Lawes' manure. Half of the turnips and swedes should be consumed at the homestead, the other half should be eaten along with their daily feed of cake and corn, with an allowance of hay, grown lambs and drafted sheep having a pound or a run to a field of grass adjoining. In order to manure the land evenly, two alternate rows of swedes and turnips should be the half left for consumption in the field. 5th. Oats, or a mixture of oats and barley, called "shiprys" 6th. Barley with seeds, 2 tons per acre of lime having been ploughed in on the oat or "shiprys" stubble the previous autumn, and the good effects of this dressing in the barley seeds, and the subsequent grass crops will be very satisfactory. 7th. Seeds to be eaten in spring by the ewes with twins; after weaning time by the lambs till they are removed to the clover stubbles, preparatory to being put on the turnips. 8th. Grass to be grazed by sheep. 9th. Ditto. 10th. Ditto. The next consideration will be the management of the remaining ten fields which are in permanent grass. Four of the nearest fields to the homestead will be required for the summer grazing of the milch cows, and the lattermath of two hay fields. Two of the most distant of the permanent pasture fields will keep the 10 yearlings, with the help of the lattermath of the other two hay fields.

Two, out of the ten fields in permanent grass, should be annually dressed with either a mixture of lime and earth, or dung compost, and four of them alternately mowed and grazed. A good deal of the compost might be made in the shelter sheds that ought to be in every grazing run, otherwise the cattle will run off their flesh before gaddies, and waste their droppings by polluting the water in their fields. The horses are to be in the house, fed with a mixture of split oats, cut straw and hay, with a little carrots, or gorse, or vetches in addition, according to the season, till harvest, when they might be turned out to cool their feet, and clean after the cows and yearlings, which are by this time commencing the oddishes; besides, all grass lands should be eaten quite clean once in the year, and the weeds eradicated. The calves should be in an open shed with a yard, eating vetches, hay, and a pound a day of cake, till they are about a twelvemonth old when they ought to be accustomed to the best grazing land on the farm, where they are to remain till they are sent to the lattermath, from thence to the feeding byres to be there furnished with a progressive allowance of turnips, meal, hay, straw, and some cake, till they are ripe for the butchers. If these cattle had the benefit of sucking their dams dry, as they most probably will do when the farmer is a bachelor, or, when the farmer wishes his wife not to be troubled with a dairy, they ought to pay a pound per month, but on the contrary, when they are weaned young, and their dams milked for dairy, there must be a reduction of one-fourth. The sow should farrow in September and March and the produce after being weaned kept in the manure yard which ought to be covered, and their food to consist of vegetable refuse, skim-milk and wash-thickened with from 3lbs. to 5lbs. of meal per day, or even more, according to size. The whole, except what would be required for the house, has to be sold off as porkers. The poultry having comfortable quarters will pay for all the care bestowed on them. The grand lesson to be remembered in breeding and feeding all animals, is steady and continued progression from birth to the shambles. As to the motive power of the farm, the principle is very simple, that is, never do anything with manual labour if it can be done by horse, and never by that power if it can be done by water or steam power. All the corn, except when the price is high for wheat, should be consumed on the farm in addition to about 5 tons of pure linseed cake. Besides, 80 cwt. of auxiliary manure and about 20 tons of lime should annually be used to keep up the mineral loss above alluded to. All the transactions on the farm should be carefully noted down, and a balance-sheet made at the end of the agricultural year. In conclusion I beg to thank you for your patience, and assure you that this is not an imaginary plan of farming, and I feel confident that if it became general the aspect of the district would present as beautiful and productive an appearance as the most sanguine member of this Club would wish to behold; and it is the earnest wish of the introducer that this paper may contribute its quota to general amelioration of this peaceful country.

Mr. Lewis (Llwynfedwen) said he could not follow Mr. Davies' observations minutely and point out all points where he disagreed, because he had not taken any notes, but he might state that he believed there should be three systems for this country—one for the high land, one for the middle land, and one for the low land. Of course that was his opinion. It was well known that they had different courses of husbandry, and what would do for clay soil would not answer for shallow land, or a gravelly soil. He was not in a position to state his opinion as to the correct system to be adopted, and he agreed with part of Mr. Davies' remarks as to the cropping of a 100 acre farm, though not as to the course of cropping proposed by that gentleman. He would not tell them what course he himself would adopt, but he would not advocate Mr. Davies' system. One part of the paper he thoroughly agreed with. As Mr. Davies had said, to be a successful farmer there ought to be good buildings, and he was glad to say that one noble lord, a large owner of property in the county, had introduced good buildings on to his farms—but he was sorry to say that other landowners had not followed so good an example, for he was certain that no person could farm well unless he had a proper homestead. While on this point he would mention that some time since a prize was offered for the best plan of a homestead; there were seven or eight competitors, and he had the prize plan with him. The successful competitor, Mr.

Davies, of Pumpsaint, was not a professional man, but the plan was a very good one.

Mr. HUGHES (Castellddu) said Mr. Lewis had thrown out a hint of a different system to that suggested by Mr. Davies, and which he (the speaker) thought a bad one; for there was one objection to its being carried out—a tenant farmer could not undertake a ten years' course of cropping unless he had a 14 years' lease.

A Voice: Or a lease for 21 years.

Mr. HUGHES said that would be better still. At present farmers were very liable to be turned out of their farms, especially for one reason which they all knew—and they must have leases before they could venture on a ten years' system of cropping. Mr. Davies' theory of farm management was a perfectly sound one, though he went further than Mr. Davies in one matter. In his paper he said that calves should be kept in until they were a year old, but he thought farmers should keep them in until they were ready for the butcher.

Mr. HARRIES (Llandilo-Abercowin) said he pursued the five-course system of cropping, and he fancied it answered better with him than any other. He began with wheat, went on to barley, then to turnips, then to seeds, and then returned to wheat again, and he had successfully worked this system for 10 years.

Mr. JONES (Dirwydd) should say that the best mode of farming was to farm to some profit; though agriculture did not lead to great fortune. He had been farming for 45 years without making a fortune, but he knew persons who had entered into business at about the same time as he started farming, and they had retired with very ample fortunes; while the farmers who had made fortunes were very few and far between, and he was not one of them.

The CHAIRMAN: How did you portion your children?

Mr. JONES: Well, not out of the profits of farming. In continuation he said, that when a person took a farm, the first thing he ought to do was to drain his wet land if he had any, and then he ought to arrange which of his fields were to be pastures and which arable lands. He never heard of the ten-course system before; but he had tried the four-course system on light land, and it did not answer, and ever since he had followed the six-course system for twenty-six years. He commenced with the principal item—turnips—and he might here say that he would not recommend anybody to grow turnips if the land was not clean. For his part he would rather lose the rent and taxes of a field for a year, and let it lie fallow, than sow turnips in a dirty field. But to continue. In the second year he sowed barley with bone manure, and in the third seeds. In the fourth year he laid down grass, in the fifth wheat, and the sixth oats. When the crop was gathered, he then ran the plough through the land, and then it was ready to begin the course again. He fully agreed with Mr. Davies, that a farmer ought to feed his calves well, and keep them in creating flesh until they came to the butcher. They should be especially well attended to in the first year. He had now told them what he had done, and he thought if they did likewise they would get on, though he had not made much profit.

Mr. MORGAN (Llwyn) said there were some things in the paper which he did not agree with, and he did not see how a man could work fifty acres of land with only two horses; because in an ordinary farm, when sending manure to the fields, a farmer would never like to have less than two carts going, and to each cart there would be two horses; indeed sometimes three.

Mr. DAVIES: I said five.

Mr. LEWIS said he understood that Mr. Davies spoke of five horses.

Mr. MORGAN: I thought he said two constantly, and occasionally two more.

Mr. DAVIES said that he advocated the keeping of two draught horses and a hackney, and occasionally another pair of cart horses.

Mr. MORGAN: Then I must take it for granted that there are five horses on the farm, two of which are always at work. I am satisfied on that point. With regard to the ten cows, ten calves, and ten yearlings, he thought Mr. Davies had not over-shot the mark; an ordinary farm would support that number; but as regarded the sow which was to breed twice in the year, he must say that the farmer would be very neglectful if she did not breed oftener than that. Another fault he had to find was, that in speaking of his farm, Mr. Davies appeared to take it for granted that the land was ready for

tillage. They had not heard anything about draining, the cost of draining, the best mode of draining, or whether draining was profitable. As to the ten-course system, he had not heard of it before. Mr. Jones went for the six-course, and he (Mr. Morgan) was laughed at when he read a paper on the four-course system, even more than Mr. Davies had been; but his idea was, that if they observed a happy medium they would be near the mark.

Mr. BUCKLEY (Penyfai) said in this district they had chiefly the Silurian, then the old red sandstone, and mountain limestone, and then came, to the south or south-east of which they might say Llanelly was the capital, the mineral district. Now he would suggest that these different soils required different courses of treatment, and he thought that the system Mr. Davies had propounded was rather too inflexible, and that though it might, and no doubt did, suit one of these soils, it would not suit all; it was rather too rigid. More than half of this county was on the Silurian strata, and the soil contained a good deal of lime, so that it would not require all the lime as manure that the lecturer spoke of. The limestone part would only require the addition of lime to the soil under peculiar circumstances. Then in the coal district there was scarcely a trace of lime, and there the land would take any quantity with advantage. The speaker then proceeded to argue in favour of an alternate system of green crops and corn, and said he thought all systems of about the same value as long as they were alternate. He noticed that Mr. Davies' system was an alternate one, except where barley came after oats. Now he did not believe in a corn crop for two years running, as he was afraid of deteriorating his land; he was always anxious to keep it at cropping point. As had been very judiciously remarked, there was an influence which bore upon the soils in this west coast, and that was the moist, wet, and at the same time exceedingly mild climate, a climate that would only very exceptionally indeed give us anything like a good crop of corn, or the opportunity of getting a late harvest. Last summer was one of those exceptional years, and he supposed we had the best corn harvest ever known. In England that had not been so, and the harvest on light land in the Eastern and Midland counties had been light and poor. But this same mild, moist climate, which generally gave us such poor crops of corn gave a most invaluable, most excellent crop of roots and green crops. Then these circumstances of soil and climate, what did they direct us to? His answer was that they should only grow roots and green crops. The climate should also lead them to improve their pastures and meadows; they should drain them, and if they did so they would have their excellent black cattle in far better condition, and a far greater number would be sold at the spring and summer fairs than was the case at present.

Mr. HUGHES (Castellddu): They would be of better quality.

Mr. BUCKLEY agreed with Mr. Hughes and said they would not then see, as they did now sometimes, a farmer standing with a few miserable steers which he often had to take back unsold, but he would be able to ask whatever price he liked almost, and the drovers would buy them. That was the course they had to pursue, for their moist climate would allow them to graze their cattle until Christmas, and they would have to expend more capital, but who thought of going into trade with insufficient capital if he wished to get on?

Mr. MOSLEY said with a deal of what Mr. Davies had put forth he agreed, but with some portions of the paper he must find fault as other speakers had done. He believed that although the rules laid down might be very good ones for certain climates and certain districts, yet in this country, the climate of which varied so much, one system would not apply to all the districts. As Mr. Buckley had said they wanted more money among them, and a good system of drainage, a judicious system of manuring, and a good system of cropping afterwards. He would not any longer trespass on their time when there were so many practical men present more able than he, and he would sit down thanking them for the patient hearing they had given him.

Mr. PROSSER (Tygwyn) asked whether it was possible that they could exhaust land with such a quantity of lime and superphosphate as that mentioned by Mr. Davies?

The CHAIRMAN replied in the negative.

Mr. BUCKLEY remarked that he did not use anybody's superphosphate; but he put 100lbs. of dissolved bones per acre on his land.

The CHAIRMAN said he objected to the ten-course system, for he looked at it as nothing but a seven-course system with three bad endings. He hoped all condemned three grassing years out of ten. If they adopted the four-course system, they must have an enormous quantity of manure and good land: the five-course system took less manure and less capital, but the six-course system he thought the best. He had tried it for twenty years, and found it answer. He would say nothing about his crops, because he thought all had had good crops this season; but what had been a good year in Wales had been a bad one elsewhere. He thought Mr. Davies was wrong as to the number of horses necessary to work a farm of the size he had named. A farmer ought to make himself independent of his neighbour, and it would never do for him to run about after an extra team of horses, and what was more, a man could not always command horses when he wanted them. He hoped they would not run away with geological systems of farming, for he thought the right system was to examine the peculiar character of each field. In the same farm might sometimes be found clay, gravel, limestone, and peat; and, without paying too much attention to geological formation, farmers should look closely to the texture of their fields, and manure accordingly, without reference to the strata in the neighbourhood. His advice to them was to take care of their fields, pay attention to the rotation of their crops, and the state of the farm would tell them how many cattle they could keep. In conclusion he recommended the cultivation of rye instead of vetches as being much more profitable.

Mr. BUCKLEY thought farmers would find rye pay as well as wheat if not better.

Mr. DAVIES thought he had been misunderstood in his remarks about lime. What he said, or at any rate meant to say, was that he used four tons per acre for each rotation, mixing it well in with the soil; but he would add that two tons used properly would be of more value and would have greater effect than if six tons were not used properly. Mr. Morgan (Llwyn) wanted to know what he would do with his cows, and his reply was sell them from time to time, taking care to keep up the supply. With regard to the number of horses he had not been understood. What he said was that a farmer should keep five horses if necessary, but if the farm was not a hilly one three would be sufficient. He did not propose that farmers should borrow their neighbour's horses when they wanted an extra team; but he thought if he had a field to subsoil he would rather purchase a pair of horses and sell them again, even at a loss, than keep a team that was idle the best part of the year. He was surprised Mr. Jones and Mr. Morgan said they had never heard of a ten course system of cropping, but it only showed they had not read Mr. Sewall Read's report to the Royal Agricultural Society as to the best system for Wales, wherein he said that the most permanent and best for this part of the country was the ten course rotation.

Mr. BUCKLEY: Who is he?

Mr. DAVIES said Mr. Read was a Norfolk man, but he had lived in Wales a very long time.

THE GROWTH OF FLAX IN IRELAND.

At the monthly meeting of the Ballineen Farmers' Club, Mr. CLARKE said that in consequence of the great quantity of flax which had been grown, there was much difficulty experienced in getting it scutched, and the consequence was that the farmers could not dispose of the crop. He tried throughout the whole county to get flax scutched, but it could not be done until at this side of the 1st of June, which entailed great loss and inconvenience. He believed that this would lead to the farmers ceasing to grow flax in large quantity, for it was a perishable article, and unless they were enabled to get it scutched and disposed of within a reasonable time, how could they pay their rent and the many charges that were upon them? In all the mills there was more work than could be done, and his idea was that in every parish a scutching mill should be erected. He trusted that Lord Bandon would make such a representation on the point as would secure the erection of more scutching mills in the county.

Colonel BERNARD said that there had always been a great uncertainty as to the quantity of flax that would be grown. They never could depend on the amount of flax that would be sown, but he was in hopes that the good prices being realised would lead next year to a large supply. If that proved the case, there was no doubt that there would be scutching mills erected, but the great want of them at present had been truly stated by Mr. Clarke.

Lord BANDON said he was glad Mr. Clarke had come forward to state the want that existed. What was really wanted was that some intermediate parties should come forward and scutch their flax for them. If they did so the farmers were prepared to grow the flax, and if that was done and the home trade supplied, they would keep £1,600,000 a year in the country which at present went abroad. He was happy in being able to congratulate them on the large quantity of flax brought into the market that day. He understood there were about 140 cartloads of it, representing between 7,000 and 8,000 stones, which, disposed of at the prices of the day, would realise about £3,000. Considering the size of the place, and that the flax market there was but a beginning, he thought that state of affairs very encouraging. They should also bear in mind the great want of water that they had experienced, and probably the next fair would show a still larger quantity of flax. As far as he had been able to learn from the

gentlemen who were present from the north of Ireland, the prospects of flax growing and the flax trade were likely to be much better next year than they had been hitherto. The present dreadful war had in a degree paralysed the trade, and had it not been for that, he believed that new flax would be realising 1s. per stone more than it did. They hoped that peace might be made before long, and then a reaction would take place in the great demand for linen by Germany and France. Again, their not being able to grow flax themselves gave every encouragement to the farmers of this country to cultivate this crop, and next year they might depend on a good market for it. There were one or two matters that he wished to mention to the meeting. It had been complained to him by some parties in the north that a practice existing there was finding its way into the south—that was, that buyers went to the scutch mills, picked up the best of the flax, and bought it up, leaving the inferior quality to come into market like that. Now, in two ways that was injurious—first, because the farmer did not get as good a price as he otherwise would for his whole flax; and, secondly, that unless there was a good supply at market, they could not have the advantage of the northern buyers coming down and spending their money amongst them. These were evils that could be corrected only by the farmers themselves. They could get their flax scutched wherever they pleased, but they should retain the whole of it for market, where it would be open to competition. Another matter he was anxious to call attention to was the assistance that had been given for flax instructors throughout the country. At the agricultural dinner at Ballinasloe, the Lord Lieutenant spoke highly of the advantages that had been gained through the advice given by the flax instructors, and one thing would be most desirable, that if the grant, as he (Lord Bandon) hoped it might, was retained, the flax instructors might be sent to their several districts at as early a period as possible, and thus be able to give advice to the farmers as to what portion of their ground was best suited for flax, and the manner in which the crop was to be treated. He believed the grant would be applied far better if it was given through the agency of the flax association of Belfast, assisted by any local committees they might name, than through the joint co-operation of the Royal Dublin Society and the Agricultural Society of Ireland.

THE FOOT-AND-MOUTH DISEASE.

At the first meeting of this session of the Breconshire Chamber of Agriculture, Colonel Bridgwater in the Chair, Mr. FERRIS, V.S., read the following paper: This disease is of great importance, for its ravages are but too apparent in many parts of the country. I propose to explain to you in some measure the nature of the disease, to tell you the signs by which it may be known, and in conclusion to make a few remarks upon its treatment and prevention; and I hope what I say will prove sufficient to provoke a discussion interesting to all. I shall read extracts from, and found my remarks chiefly upon, an essay lately written by Professor Brown. Foot-and-mouth disease is now generally known by that name, although various other names are employed in different parts of the country, such as eczema, epizootica, murrain, vesicular epizootica, and distemper. It first appeared in England in 1839, and since that time it has never been thoroughly eradicated, though through what channel it was conveyed to our country has never been satisfactorily ascertained. This disease was said to be in Holland at that time, from which date no foreign cattle were permitted to land in this country until after June, 1842. One fact only in reference to its origin is incontestable, namely, the prior existence of the complaint on the continent, but whether it was brought by individuals, animals, substances which had been in contact with infected foreign cattle, or in obedience to that unknown law which regulates the cause of many epidemic and epizootic diseases, has never been proved. In the beginning of the year 1840 the Royal Agricultural Society of England took action for the purpose of obtaining information respecting the nature and treatment of the disease. The Veterinary Committee of that day, in concert with the late Professor Sewell, drew up and forwarded to each member a circular, dated April 8th, 1840, giving a short account of the symptoms by which the disease might be known, and offering some suggestions for its treatment. That the disease referred to in the circular was in all essential particulars the foot-and-mouth complaint, will be evident from the following description. The attack does not always commence in the same form, but ultimately terminates in a disease of the same type and character. In some animals it commences in the feet between the claws, and in others it appears to have begun in the mouth; in others a stiffness in the legs of the animals is first perceived, as if treading upon thorns and briars; then follows a discharge of saliva from the mouth, and a champing of the lips. The blisters peel off, and loss of appetite and general debility ensue. The treatment recommended by Professor Sewell included attention to the animal's comfort, laxative medicine, followed by tonics, astringents, lotion for the mouth, and to the diseased feet poultices, and afterwards styptic solution. This circular was followed by another, dated 1841, requiring information respecting the extension of the disease, and the various conditions under which it appeared. The results of the inquiry were published in the Society's journal the same year. During the progress of the disease it was observed that animals of various kinds which were exposed to the infection suffered from its effects; not only cattle, but also sheep and pigs were attacked, and in many instances poultry did not escape; sheep were most severely attacked in the feet, and loss of the horny covering of one or more of the digits was not an uncommon occurrence. After a market at Smithfield it was frequently necessary to sweep away the hoof which had sloughed off the feet of diseased sheep especially, but also occasionally of pigs and oxen, while they were exposed for sale. The admission of foreign stock in 1842 was not attended with an increase in the number of attacks; indeed it is fair to conclude that the malady declined from this time to 1845, when it again became prevalent. Its progress has not been uniform in extension nor virulence. Some years have been rendered remarkable by its unusual violence, and at others by its light form. In the year 1862 it assumed a character of great severity in this county, and some few animals died of the disease. Since 1862 there have been only a few light cases in this neighbour-

hood to my knowledge. It is stated that at the time of the cattle-plague, when the restrictions upon cattle traffic were carried into effect, that foot-and-mouth disease and pleuropneumonia declined; and when the imminence of the danger caused by the cattle-plague led to the almost total stoppage of fairs and markets, and the movement of cattle all over the country, these diseases almost ceased to exist, or at least assumed proportions which prevented them from being especially observed. Recently the malady has spread with remarkable rapidity in this country. The *Veterinarian*, of October, 1870, says: "We have again to report an increase in the spread of the foot-and-mouth disease. The malady prevails in 45 counties of England and Wales and 10 in Scotland. The largest number of infected places are reported from Cheshire, Cumberland, Dorsetshire, Lancashire, Somersetshire, Staffordshire, and Yorkshire; the total number of centres of infection being nearly 4,000. In Ireland also the disease is spreading, more especially in those districts where opposition is offered to the enforcement of the provisions of the law. It would appear, however, that in some of the English counties the local authority is about to adopt more active means to check the spread of the disease. In Dorsetshire a desire has been expressed that steps be taken to stop the fairs and markets. Compared with last month very little alteration has taken place in the number of counties in which the foot-and-mouth disease prevails; and although the centres of infection have decreased in some of them a great increase has taken place in others. This is especially the case in Somersetshire, which now heads the list, with upwards of 1,500 centres of infection. The returns also from Cumberland, Dorset, Hants, Wilts, and Yorkshire are still very heavy. At no period, however, has its spread been more rapid than during the last few months." Eczema, or foot-and-mouth disease, is an eruptive fever, affecting cattle, sheep, pigs, and poultry. Contagion is the common cause of the diffusion. The period of incubation is from one to four days. During this time the temperature is increased, and finally the formation of vesicles or little bladders on the mucous surface, and those parts of the skin thinly covered by hair, takes place, and the vesicles appear in the mouth and tongue on the udder between the digits. In some cases complete separation takes place between the hoof and the more sensitive tissue. Under ordinary circumstances the disease is not fatal in character. A considerable fever is present in the early stages; but as soon as the vesicles are formed it subsides, and convalescence is established in six or seven days. When the malady assumes a virulent form the results are more serious, consisting of ulceration of the mucous tissue of the mouth, formation of abscesses and in other parts of the body, sloughing of hoof and extreme debility and emaciation. The losses in this malignant form of the disease amount sometimes to 20 per cent. of the animals attacked. Milk from cows and sows with this complaint given warm occasionally destroy sucking calves and young pigs. It has been alleged that there is not any direct evidence of injurious consequences arising from the consumption of the milk or meat by human being. The milk is generally allowed to become cold before used, and the meat is cooked previous to human consumption, which probably destroys the morbid matter in the blood. Experiments have been made in which hay saturated with infected saliva has been introduced into the mouth of a healthy animal. This has caused the formation of vesicles in the mouth and feet of the previous sound animal within 40 hours. These observations are useful in showing the short time this disease is in the system prior to its development. Inoculation by puncture and introduction of the contents of vesicles failed to produce any effect in cows, sheep, and pigs. The symptoms are very characteristic. A person who is familiar with cattle will at once recognize this affection by the general aspect of the animal. Stiffness or lameness, discharge of saliva, and a peculiar smacking of the lips, are indications which are unmistakable, but the observer will also distinguish other and not less cha-

characteristic symptoms. At the commencement of the affection the animal is dull and inclines to stand still, with the back arched. In some cases the hind feet are snatched up suddenly and shaken as though to get rid of something which annoys, and the appetite is impaired. In a few hours of illness vesicles or little bladders will appear in the mouth accompanied with a drivelling of saliva on the teats or udder rendering it hot and tender, between the claws causing lameness, while in milch cows the secretion of milk is diminished. These symptoms may be slight or severe. In the mild form of the disease the morbid action subsides in a few days, the vesicles burst and discharge their contents, and the abrasions are quickly healed; the lameness ceases; the milk and appetite return and soon recover the lost condition. This epizootic disease is of many degrees of intensity. The amount of suffering endured is often excessive in a severe form of the disease, and the animal is a pitiable object. The mouth and tongue become studded with sores, partial or complete separation of the hoof takes place, and ulceration of the tissue extending to the bones, causing open joint, and at times the legs and other parts of the body swell from effusions in the cellular tissue beneath the skin, and abscesses form in the udder of a very unhealthy character, accompanied with a low fever and extreme debility, which continue for a time, and in some cases end in death. Now, as to treatment. This complaint runs a fixed and determinate course. The eruption can not safely be arrested, and therefore the principle to be followed is to avoid unnecessary interference beyond supporting the system by giving soft, easily-digested food, such as mash of bran and linseed, pulped roots, grass, or gruel. Bleeding and purgatives are very injurious. Small doses of nitrate or bicarbonate of potash may be given when the fever is severe. When associated with other diseases, or any unfavourable circumstance, the complaint often assumes a virulent form, in which case the aid of the veterinary surgeon is required. Now as to preventive measures. It is obvious that the first essential is the separation of diseased or infected animals from those which are healthy. It may be true, at least need not be disputed, that restriction to the free movement of animals is contrary to the interests of commerce. It is, on the other hand, undoubtedly true that free movement of infected animals means unlimited extension of disease. Movements in any direction along roads or railways, for any purpose, must be associated with the propagation of the infection to a greater or less extent, depending upon the precautions which are used. On premises where the disease exists disinfectants should be freely used, and the most exact care should be exercised in removing all excreta, which should be mixed with quicklime in equal proportion. The selection of the method of disinfection is probably of less importance than the previous adoption of a complete process of cleansing sheds and places where diseased animals have stood, by means of washing with hot-water, containing common soda in solution, after which carbolic acid, chloride of lime, or zinc, or sulphurous acid gas, may be employed to complete the process.

Mr. D. DOWNES said Mr. Ferris had not exactly given them the remedies he should wish to hear.

Mr. OVERTON: Yes; he has told you that the best thing is to send for a veterinary surgeon (a laugh).

Mr. D. DOWNES recollected a good many years ago his animals were suffering from the foot-and-mouth disease. The first symptom was lameness. The animals were not able to stand, and they had blisters upon their mouths. The remedy suggested to him was a solution of alum to be applied to the tongue and udder and between the claws. He carried out this suggestion. He hoped that some of those present would be able to give them some information.

Mr. OVERTON asked Mr. Downes if the remedy he had named succeeded.

Mr. DOWNES replied that it did. He did not lose an animal.

Mr. FERRIS said he thought it was a rare disease for quacks to deal with. The solution of alum was not poisonous, and, therefore, it would not poison the animals; but if they were left to nature they would get on better than they would with medicine of that sort.

Mr. DOWNES: The remedy then was to give the animals opening medicine, salts.

Mr. FERRIS observed that in the year 1862 the disease was said to have been brought in by cattle from Herefordshire. He thought that there was great danger in cattle coming from an infected district.

Mr. DOWNES said he had understood that the disease was brought at the time referred to by Mr. Ferris by a drove of Irish cattle travelling through the county.

Mr. CORNISH asked Mr. Ferris if he thought it was likely that a person who had been in a shed with diseased cattle would carry the disease?

Mr. FERRIS said that this had not been proved in connection with this disease. In the case of some diseases persons were more likely to carry it than in this.

Mr. CORNISH: But did he think a person might carry this disease about?

Mr. FERRIS replied in the negative, and observed that the saliva was the most poisonous. It was infectious, but not, he thought, to the extent Mr. Cornish had spoken of.

Major CONWAY LLOYD: But it was highly contagious.

Mr. FERRIS: Yes.

Mr. DOWNES said he was sure that they were all much indebted to the magistrates of the county of Brecon for so actively doing that which that Chamber had suggested upon several occasions. But in his private opinion a resolution which would prevent the Herefordshire cattle coming into that county was uncalled for. It would materially interfere with the county of Brecon. From that time to the spring of the year many of them would be going to Hereford. They would want bulls and different animals. Now, if they passed such a resolution they would not be able to move an animal. He thought they ought to look to the Government to do more to prevent the disease from spreading over the country. There should be greater restrictions with respect to the importation of foreign cattle.

Mr. REES WILLIAMS (Scethrog) pointed out that a man might send ten or twenty animals to the Hereford market, and they might stand next to a lot of animals infected with the disease. A sale was, perhaps, not effected, and the cattle were taken back to that county. He thought the best way was to take the bull by the "nose," because "prevention was better than cure."

Mr. A. SMITH, after stating that he had had some experience of this disease in sheep, asked what was the cause of the inflammation? Was it the cold? Or were sheep in a bad condition more likely to take the disease than those which were in good condition? Would warmth and good feeding prevent it?

Mr. OVERTON said that he should like to add that he had some conversation with a gentleman who had a large farm in Norfolk, where they had suffered a good deal from this disease. He asked him whether he could attribute it to anything. He replied that he had found that it came on about the autumn, and that he thought it came on when there was a good deal of fog. They were subject to heavy fogs, and there was an impression that they had something to do with it. This idea might be of use to them, or it might not. There might be something in it.

Mr. FERRIS, in reply to questions which had been put to him, said that during the time the morbid matter was in the blood the animal was feverish, as Mr. Smith had said. He was not going so far as to say that the sheep, being in a good condition, were less liable than those in a poor condition; but there were circumstances in which they were more liable to take the disease. For instance, they were more liable to take it when travelling; also at the time of parturition and lactation. He thought that fat sheep were just as liable as poor ones. The best preventive was to take great care that the animals did not come in contact with those which were diseased. If they sent their animals to the market of a county in which the disease was, their cattle might stand by those which had the disease, but did not show it; and if the animals were brought back to the county they might bring the disease with them.

Major CONWAY LLOYD said after what he had heard that day he did not think it was necessary for them to pass any resolution to bring before the Quarter Sessions.

There was some further incidental conversation amongst the magistrates present, but this was of little weight.

THE CHEMISTRY OF FEEDING STUFFS.

At the first meeting for the season of the Botley and South Hants Farmers' Club, Mr. William Warner in the chair, the subject for discussion was "The Chemistry of Feeding Stuffs and the Value of their Constituents," introduced by Mr. Albert Spooner.

Mr. A. SPOONER said: The dry season just passed having occasioned such a scarcity of food, particularly in the form of hay, induces me to take "Feeding Stuff" as appropriate for a paper at the present. However, I must first entreat your indulgence for the many faults and imperfections it contains, perhaps more excusable on account of its being my first. In order that we may dispose of the various sorts of food at our command to the best possible advantage, and to supply each kind of stock, as far as we are able, with the best food suited to its peculiar requirements, it is very desirable that we should have a clear knowledge of the various objects to which the nutriment derived from food is applied in the animal economy. We must first therefore consider the principles that exist in food, and the effect they have on the animal system. These principles are divided into two classes—the "proximate" and the "ultimate." The ultimate principles of food are composed of mineral or inorganic matters, which mostly consist of phosphate of lime and magnesia. They form the ash after burning; hence they are sometimes called the ash constituents. These mineral matters tend to the formation of bone in the animal system; in fact, they supply every part of the body with their earthy constituents. The proximate principles are furthermore divided into two classes—first, into those principles which consist of three elements, viz., carbon, hydrogen, and oxygen; and, secondly, those which consist of four elements, carbon, hydrogen, oxygen, and nitrogen. Carbon, in a separate condition, is a solid body, of a black or grey colour, as is seen in charcoal, soot, coke, and other substances of which it is the principal ingredient. It may also assume the form of a colourless, transparent stone, for the diamond, the most precious of our stones, has been demonstrated by chemical examination to be pure carbon. In like manner it changes colour and form, when it unites with hydrogen, oxygen, or nitrogen, for wood, starch, and sugar are not black, yet the half at least of these substances consist of carbon. It is in this form it exists in plants, for on subjecting them to heat, which drives off the oxygen and hydrogen in the form of vapour, a carbonaceous mass is left behind. Upon continuing the application of heat, with a free access of air, not only the colour is altered, but the solid form also, for the carbon, combining with the oxygen of the air, forms a kind of gas, which has been called carbonic-acid gas. The same thing happens in the putrefaction and decay of animal and vegetable matters, although by a slower process. Carbonic-acid gas is present in small quantities in the atmosphere, and is a constant product of respiration as well as fermenting liquids and combustion of all kinds. Oxygen in a free condition is an invisible gas, without taste or odour. It constitutes one-fifth of our ordinary atmosphere. Oxygen is not combustible—that is, it will not burn, but it is a powerful supporter of the burning of other bodies; for instance, bodies which burn in air burn with increased brilliancy in pure oxygen. Every one knows that fire cannot burn, that animals or vegetable matter cannot putrify without air. That property we owe to the air of maintaining and supporting those chemical changes is due alone to the oxygen it contains. Hydrogen, in like manner, is as invisible as when uncombined. It is very extensively diffused throughout nature, and from its extreme lightness was formerly used for balloons. Water is composed of hydrogen and oxygen, for if these two gases be mixed together, the sole product formed is water. And, again, by decomposing water, we obtain the gases. Hydrogen is combustible, but does not support combustion. For instance, a light is immediately extinguished when plunged into a jar of this gas. The hydrogen burns only when it comes in contact with the air. Nitrogen is also a gas, without taste, odour, or colour, and constitutes the great bulk of our ordinary atmosphere—viz., four-fifths. It is neither combustible nor a supporter of combustion. The pre-

sence of nitrogen cannot be easily shown, although it plays such a very important part in the composition of feeding stuffs. Class 1, that is, those principles which consist of the three elements—carbon, hydrogen, and oxygen—are called the non-nitrogenous or carbonaceous compound, and, with one or two exceptions, are also called respiratory heat-giving or fat-producing substances, on account of the part they perform in the animal system. Class 2, that is, those principles which contain, in addition to the elements just mentioned, nitrogen, are called the nitrogenous or flesh-forming constituents, on account of the function they perform in relation to animal life. The compounds which belong to the non-nitrogenous and fat-producing principles are the following: Woody fibre, or lignine, which is by far the most abundant of vegetable products, forming the bulk of most plants. It is almost useless as a feeding material, and is even objectionable when present in large quantities, since it passes unchanged through the animal system, owing to its indigestibility; hence the amount of this substance materially affects the value of feeding matters. However, as it exists in young plants it is digestible to a certain extent in the stomachs of animals, and seems to be as nearly as useful as the other members of this group. The rest of the compounds of this class are starch, sugar, gum, mucilage oil, or fatty matter. The greater portion of these compounds, which exist more or less in every kind of food used for cattle, when received into the system, become, as it were, the "fuel" necessary for sustaining the animal heat in the process of respiration. The breath of animals effect the combination between the combustible materials in the blood and the oxygen of the atmosphere, and, as in this process, a certain amount of heat is liberated, the requisite temperature of the body is thus kept up. These combustible materials, which may, with great propriety, in food, be called the animal fuel, are starch, sugar, and oil. The greater portion of food consumed by animals is required for the purpose of supplying heat to the body by undergoing oxidation in the lungs, in which process carbonic acid and water are formed, and pass off in the breath exhaled. When more of this kind of food is taken up by an animal than is necessary to sustain the proper heat of the body, that excess is stored up in the form of fat. It follows, then, that an animal confined in a small space, and consequently able to take but little exercise, soon gets fat, from the formation of this material of the food, that would otherwise be consumed by exertion. All of these respiratory compounds are capable of being converted into fat in the animal system, but with different degrees of facility. Thus it may be readily imagined that respiratory matter in the form of vegetable oil, as found in various seeds, is much more capable of being converted into that material than starch or sugar. This explains the superiority of the different oil-cakes in the fattening of cattle over other feeding stuffs. When food is deficient in these respiratory principles the animal system suffers from the want of heat. Moreover, unless a due amount of combustible matter is present in the body for the oxygen of the air to act upon, the surface of the lungs themselves are wasted by the oxygen of the air. We may therefore conclude that the non-nitrogenous or respiratory principles in food keep the animal body in its proper temperature, so that the functions are maintained, and any excess of these matters furnish the material for the formation of fat, but are unable to supply actual nourishment in the proper sense of the word—that is by restoring the waste the body sustains by exertion, and giving matter for the formation of flesh and sinew and other parts of the animal frame. To supply those deficiencies we must therefore have recourse to the nitrogenous or flesh-forming principles, the composition of which I have already mentioned. They exist in the choicer portion of all vegetable substances, and closely resemble a substance called albumen, or white of eggs, hence they are sometimes called albuminous compounds, of which are the following: Albumen, casein, gluten or vegetable fibrin, and legumine, as found in different substances. All these compounds are very much alike, and are considered equally valuable. Since, then, it is from the nitrogenous portion of

food the bodies of animals are chiefly built up and strengthened, it follows that the value of feeding matters are very materially affected by the amount of albuminous matter they contain, for the muscles and tissues wasted by exercise and fatigue are alone renovated from these materials. For this reason working horses require corn and beans in proportion to the amount of work they do, or otherwise their frames become wasted, and their strength diminished. We may, therefore, infer that the nitrogenous principles are the most valuable in food, but alone are totally incapable to support life. In conjunction, however, with the respiratory principles they form the proper food for cattle, such as Nature has ordained. Having discussed the composition of animal food, and the use of the various matters contained in them, in the animal system, we will now direct our attention to the various kinds and their relative feeding qualities. Linseed cake justly stands at the head of our feeding stuffs, and, if good and genuine, will contain about 11 per cent. of oil (although the greater portion has before been extracted from the seed), 28 per cent. albuminous or flesh-forming matter, 30 per cent. of non-nitrogenous matters, such as starch, sugar, and mucilage, 12 per cent. of woody fibre, and 5 per cent. of mineral matters. Linseed cake is, therefore, a very nutritive article, for it contains, in some cases, as much as 12 per cent. of oil, which constituent must be regarded as the most valuable of the respiratory form, occurring in oilcake from the fact that, having an abundance of other respiratory matter, in the form of starchy substances, which are sufficient alone to sustain the animal heat, the greater portion of the oil is converted into fat in the animal system. Ten parts of oil is usually estimated as equal to twenty-two parts of starch. The proportion of nitrogenous matter is, generally speaking, greater than that found in any other natural produce used as food. Mucilage is also very abundant in this kind of cake, which is considered a valuable constituent in food. This mucilage is very characteristic upon mixing oilcake with water, when it becomes at once very gelatinous, and is employed amongst other tests of judging the quality. Linseed cakes are made from seed grown in different localities, all of which possess the same qualities almost equally, provided they are free from dirt and other impurities. The only objection to linseed cake is its high price, which is governed not only by the demand and the supply, but also by the price of the oil. When the oil sells freely, and is in great demand it stimulates the manufacture, but when the market is slow it tends to increase the cost of the cake. Linseed cakes are often, at the present time, very much adulterated, sometimes with bran, which, although perfectly harmless as a feeding ingredient, diminishes the value of the cake. At other times starchy materials, such as rice dust and damaged grain, are occasionally met with. These inferior cakes are usually sold at a lower price than the genuine ones, although "farmers" are somewhat loath to think them at all inferior in quality to those of a higher price, but rather think you are endeavouring to "sell" them should you ask a higher price than they have before been offered for the adulterated cake. Rape cake, although formerly almost entirely devoted to the purposes of manure, is now extensively used as a feeding stuff. It does not differ very widely in general composition from the linseed. The following is its composition: Oil, 11½ per cent.; albumen, 30½; starch, &c., 28; and 8 mineral matters. Thus it contains a higher percentage of albuminous matters than linseed cake. However, it has a certain bitter taste, which somewhat lowers its merit as food. The chief objection to rape cake is its liability to contain the poisonous seed of oil of mustard, the presence of which can be detected by mixing a little with water and subjecting it to heat, when the smell of the mustard is very easily recognized. It must be borne in mind that mustard is present more or less in almost every sample of rape cake. Practice is, therefore, requisite in a certain degree to ascertain to what extent the presence of mustard is injurious. Foreign rape cake is the best, inasmuch as it is made from seed grown in the north of Germany and France, which is purer than the East Indian seed, from which English cake is usually manufactured. As its cost is about two-thirds that of linseed cake and its manuring value rather greater, it is valuable for growing stock. Decorticated cotton cake is a valuable feeding substance. It is prepared almost exclusively in the Southern States of America, where the thick husk can be profitably stripped off. The taste and smell of this cake are peculiar, and less pleasant than linseed cake. It contains

as much as 41 per cent. of flesh-forming element and 16 per cent. of oil, as well as a considerable proportion of phosphates, and must therefore be regarded as a very valuable feeding stuff, although the quantity of respiratory matter is rather low compared to other cakes. If the feeding value of food were entirely proportionate to the amount of these constituents they contained, we should bring the value of decorticated cotton cake higher than that of linseed, but as this holds good only to a certain extent, we must take into consideration the taste and smell of the article, as well as the amount of essential constituents, before being able to decide upon its feeding value. The manuring value of decorticated cotton cake, however, is fully equivalent to the high amount of nitrogen and phosphates it contains. It usually contains about starch sugar, &c., 31 per cent.; albumen, 23.7; oil, 6.2; mineral matters, 6.5. Common or undecorticated cotton cake contains rather a large amount of husk, and if given in very large quantities is rather hazardous on account of injury which may happen to the animals fed upon an undue proportion of that substance. Notwithstanding, it is a valuable addition to our feeding stuffs if used with care. Decorticated earth-nut cake is a sweet, palatable cake, extremely rich in flesh-forming constituents, containing as much as 40 per cent.; consequently its manuring value is high. It is produced from a nut found in Africa, after the extraction of the greater portion of its oil, which then leaves about 7 per cent. in the cake. Palm-nut cake is a useful feeding material, particularly for pigs. It sometimes contain as much as 13 per cent. of oil, but the proportion is rather variable. Its flesh-making elements are rather low. There are various other cakes that are used in feeding, but as most of them have only a passing interest attached to them, and are not largely used, I will only mention them by name: poppy cake, camelina, Sessame, hemp, cocoa-nut cake, &c. It is very often rather an undecided question with farmers Which is the cheapest and most profitable food to employ, corn or cake? and sometimes when the former is low in price, the latter is discarded altogether. Now, this is not right, for it should be remembered that linseed has medicinal as well as feeding qualities, and it is well known that animals are never so healthy, and never winter so well, as when they are supplied with linseed cake. It is by no means sufficient in estimating the relative value of corn and cake merely to ascertain the cost per ton. We will now take an analysis of beans, which is the next most concentrated form of food, and compare it with that of linseed cake, and we find that instead of having 12 per cent. of oil, it has only 2; 24 of albuminous compounds, 46 of starch, &c., and 3 of mineral matters. Now, since oil is estimated at more than double the value of the other carbonaceous matter such as starch, gum, and sugar, and again beans containing considerably less of the flesh-forming element than cake, it follows that the latter must be a very superior article to the former; and with beans we also include peas and lentils, being both very similar in composition to beans. We will next endeavour to ascertain the value of some of the articles used as food from an analysis of them, but of course nothing like certainty can be depended upon. Some may consider and assign a great value to one constituent, and some to another. From what I have already said with regard to the parts each constituent of food performs in the animal system, I should feel justified in valuing the oil at £20 per ton, albumen or flesh-forming element at £20 per ton, starchy matter, &c., £12 per ton, and the mineral matters at £5. Then, supposing linseed cake contained 12 per cent. of oil, 29 of albumen, 30 of starchy matters, and 6 per cent. of mineral, we should bring the value of 100 tons to £1,214—that is a trifle over £12 per ton, which is not far from the average cost. It is an easy way of estimating an analysis to take parts as representing so many tons, as I have done in the preceding instance. Now, if we were to value beans in the same way, we should bring them to nearly £11 per ton. Nine sacks of beans, at 24s. per sack, would amount to £10 16s. This, however, might be worked out in a different manner, as there are some beans heavier than others, and some of higher price. Oats, again, contain a larger proportion of fatty matter than beans, viz., as much as 5 per cent., but only a little more than half as much albuminous compounds, 57 per cent of starch, &c., and 3 per cent. mineral matters. By the same method we should value oats at £10 10s. per ton, Seven qrs. and a half, 37 lbs. to the bushel, at 28s. per qr., would just make that sum, which very much tended to support

the relative value given to the different constituents of food. Barley, valued in the same way, comes to about the same price as oats, taking the following per centages: Fat, 8; albuminous matters, 11; starch, 66; and materials, 8. Eleven sacks of barley, 51 lbs. to the bushel, at 38s. per qr., amounts to £10 9s. If we value the constituents of rape-cake in the same manner as we have those of linseed cake, we should bring the value about the same, whereas the former can be bought at a considerably lower price than the latter; but there is this fact that the animals do not like rape-cake, owing to its bitter taste, which I have before alluded to, and it is necessary to study the animal taste as well as the food. Then, again, the oil is of a thinner substance, and consequently is considered to be less fattening than linseed oil. If we, therefore, were to value the oil the same as the starch, viz., £12 per ton, instead of £20, we should bring the value of rape-cake to something like £10 per ton, showing that it is still cheap food if animals would eat it. The manuring of rape-cake, owing to its richness in nitrogenous matter, is comparatively high, being estimated at £4 0s. 9d. per ton. Decorticated cotton and earth-nut cake, being still richer in those compounds, are estimated even higher in manuring value, viz., £5 6s. 6d. and £4 18s. per ton respectively, whilst linseed cake is £3 15s. 8d. per ton. Some people think it is more profitable to buy linseed than the cake. This might have been some years ago, when the former could have been bought at a comparatively cheaper rate than now, but, although it contains three times the quantity of oil, it has less of the flesh-forming and starchy matters. Therefore the cake must be more profitable than the seed for feeding purposes. If we take the analysis of swedes we should find that the greater portion of them consists of water, viz., 89½ per cent. thus leaving a very small margin for the really necessary constituents of food, which consist of 1½ per cent. of nitrogenous matter, 8½ of starchy matter, and ½ per cent. of mineral substances. What a great difference in composition to linseed cake! It shows the superior advantage of giving cake in combination with turnips inasmuch as it supplies those ingredients of which the latter is deficient—that is mainly the flesh-forming principles. By feeding alone on turnips a much larger quantity of water is given than is desirable. It shows, likewise, that we were justified in placing a higher value on the flesh-making matters, because they are not found to a great extent in ordinary matters of food. If we value swedes in the same way as we have done the various other articles, we should bring them above their real value, and the manuring value about 4s. per ton. The composition of mangold is very similar to that of swedes. It, however, contains a larger amount of sugar, and is consequently, on the whole, considered of greater value than swedes. On account of the large amount of nitrogenous matter present in oilcakes the most profitable way of using it seems to be in combination with some article of an opposite character that is rich in respiratory matter, such as barley-meal, Indian-corn, or the carob or locust bean. Indian-corn is, however, now largely used alone for feeding purposes, the cost of this article being comparatively low, and its feeding qualities in proportion high. The locust bean, also known by the term St. John's bread, contains a large amount of sugar, which affords a means of not only augmenting the respiratory elements in mixtures of food, but, at the same time, imparts a sweet flavour, making coarse or other food more palatable to the animal fed. This property is rather a drawback than otherwise in one respect, inasmuch as the beans appear as nice to the boys on the farm as they do beneficial to the cattle. In fattening animals, a food in which the respiratory matter predominates would seem to be most suitable, since the muscles or flesh are incapable of increase to anything like the extent as fat. Respiratory matter, in the form of vegetable oil, is most favourable for the formation of fat: hence the efficiency of oilcake, although the common respiratory matter, such as starch, sugar, or mucilage, are also, though probably less easily, available for that purpose. We can scarcely give the animal too much nourishment, provided its health is maintained, as we thereby shorten the time of fattening, and thus save the food that would be otherwise consumed in sustaining the system during that period. But when the system is undergoing development, as in young or growing animals, we gain more the advantage of growth than the formation of fat, for which, of course, time to a certain extent is necessary, in which case the mineral

elements are particularly required, as well as a due proportion of respiratory and flesh-making elements. Deficient food, or what amounts to the same thing, food which does not furnish the requisite quantity of the various nutritive elements required by the animal to meet the wants of its system, is always a loss to the owners of stock, from the fact that the animals cease to make progress, and fall back, and thus it requires a much larger proportion of nutritive food to regain flesh than it otherwise would to have retained its former condition; and, again, all that food consumed, instead of yielding its proper return, was expended in keeping the animal alive. Moreover, all the time consumed, we might have been making progress. The quantity and quality of food required by animals will be just in proportion to this demand upon its system. An animal has no power to produce anything which Nature has ordained that it should unless the raw material of the same are supplied in food. It is by carrying out with care and judgment the principles involved in the feeding of animals that we can expect to dispose of the many kinds of food at our command to the best advantage, and thereby to develop the resources of agriculture, and increase, it is hoped, the profits of farming.

The lecture was illustrated by some interesting experiments with hydrogen, oxygen, &c., and samples of the various kinds of cake alluded to were produced, Mr. Spooner being received with applause on resuming his seat.

Mr. JOHN GATER opened the discussion. He said that Mr. Albert Spooner had made some remarks which came very opportunely at the present time, and he was pleased with the excellent lecture he had given them. These remarks came very appropriately at a time when stock rearing and fattening was gradually getting into disfavour with the agriculturist. Such a subject must be of interest to the agriculturist, especially at a time when, as now, the food for cattle was so short, and the practical farmer should know now that which would assist him in rearing and fattening the animals. It was also of importance to the people of the country that more stock should be reared and fattened, and that it should be known what food would do that more successfully than another. He could not help thinking, too, that some notice should be taken of other things as well as the way in which the animals should be fattened—the age required to be looked to as much as possible, the kind of stock, and the peculiar constitution of the animal itself. He believed that in differently constituted animals there must be different treatment. He thought the quantity and quality of the food might be so much varied as to give better and greater results in a larger number of instances than was at present the case. With reference to Mr. Spooner's remarks that some food being different in its results to other with cattle he might say, from what little knowledge of chemistry he possessed, that he quite agreed with him that food for cattle must be given the same as other food, according to the senses—the nose, taste, or sight, and this could only be arrived at by chemical analysis. It might be said that they could fatten their cattle without it, but he contended they could not really understand the value of their food without it was submitted to such a test. Therefore he thought that the study of foods and the analysing of them was only just in its infancy. Before sitting down he must say a word or two in favour of chemistry, of which he had heard Mr. Spooner speak. What he knew he learnt of the late John Nisbet, who was a first-rate agricultural chemist. They might depend upon it the agriculturist who could combine with his practical knowledge of farming a little of chemistry would be able to compete more successfully with the farmer who had no knowledge of it whatever. It was only by a knowledge of chemistry that they could know what was the real value of that which they were giving their animals, and come to a just conclusion. All he could say to them was if they had any sons now who were to become farmers above all give them some knowledge of chemistry, for they might depend upon it the day was fast approaching when the man who had a knowledge of it would have a better chance of getting a living than the one who knew nothing about it.

Mr. BLUNDELL said: In alluding to the deleterious matter in cake Mr. Spooner spoke of bran as being simply harmless, but he believed Mr. Gater would say it was something more than simply harmless. However, he would leave Mr. Gater to answer for himself. Then Mr. Spooner had made another remark with regard to the oil of mustard seed being almost poi-

sonous, and thus it was shown that while some cake contained that which was fattening others had that which was the reverse. Therefore, in order to know what was the nutritive value of the cake the farmer should know what were its real ingredients. With regard to the two sorts of cake of which he had spoken they could only test their value by analysis. Some men might say they could not do that, but there was no difficulty when they had the Royal Agricultural Society to fall back upon, as members of it could have anything analysed. They should not trust anyone. He would take no person's word. They might hand them an account of the analysis, but they could find out the excellence or otherwise of that which was offered to them by the simple mode of testing, some of which had been done by the gentleman who had lectured on that occasion. Upon other occasions their worthy secretary had set before them, with a great deal of clearness and practicability, the various modes by which they might ascertain the genuineness of feeding commodities. He thought each of them should be able to test the cake, and see how such and such a man was serving them. By sending it to the Royal Agricultural Chemist they could ascertain what that with which they were supplied was really composed of. It was important that agriculturists, seeing that cake was so dear, should ask the question, "Which is the best for cattle, cake or corn?" If they took into consideration the relative fattening properties of corn and cake, the same as Mr. A. Spooner had introduced to their notice, they would find that while corn stood pre-eminent and unassailable in fattening animals that the residue left from corn was very different to that left from cake. In his (Mr. Blundell's) experience he could tell them what was the difference in the state of the land where £100 had been spent in feeding cattle with cake and £100 in giving them corn. He considered, whether the money might be laid out more advantageously in corn or in cake, yet the residue of cake on ploughed land on an after crop was superior to anything else that had come under his experience. One observation of Mr. Spooner's with regard to the value of swedes and mangolds he could not quite understand. Probably the secretary would give them some observations upon it. As far as his experience went he thought a mangold was of considerably more value for fattening purposes than a swede, and if he was about to fat a bullock he would sooner have 60lbs. of mangold than 75lbs. of swedes—that was to say, it was one-fifth superior as a root food, that was that he would give one-fifth less of mangold than he would have to do of swedes. The precise value of these two things by analysis had not been shown, and he hoped Mr. Spooner would himself give them some idea on that point. He was sure they were all indebted to Mr. Spooner for his lecture, and he personally thanked him for it.

Mr. JAMES WITHERS was not prepared to say much about chemistry or chemicals, but he quite agreed with Mr. Gater that it was most desirable that all farmers should have some knowledge of it. He could see the necessity for it every day. With regard to the value of cake he could say that there was a marked difference in the land where he had fed sheep on it and where they had none. He fed 200 with it and 300 without it, and, where the sheep which were fed on cake had been, the barley was one-third better. He could see distinctly every fold.

The CHAIRMAN: Did the sheep consume as many turnips?

Mr. WITHERS: They had turnips.

The CHAIRMAN: Do you think they consumed so many turnips as they would otherwise?

Mr. WITHERS replied that he did not think they did. Those which had the cake seemed careless about the roots.

Mr. BLUNDELL remarked that as the price of hay was enormous, and there was a great scarcity of it, he should like their secretary to tell them what was the value of hay as compared with the present price of oats, linseed-cake, or beans—how much dearer hay was than it ought to be.

Mr. LEANE could not understand how it was that Mr. Spooner placed the swedes so high per ton.

Mr. A. SPOONER replied that he had taken their comparative value with reference to concentrated foods.

Mr. LEANE was afraid it had been overdone—that too high a value had been placed on them.

Mr. A. SPOONER thought not much, if they compared one with the other.

The CHAIRMAN said he could not understand the argument

at first, but the fattening and manurial value of the swedes was brought together.

Mr. STUBBS said he had experience with sheep, and he had come to the conclusion that they could hardly live now.

Mr. J. GATER: Can't you give us some theory how it is the stock of sheep is decreasing?

The CHAIRMAN: I suppose it is because we do not keep enough stock. Did not Mr. Stubbs think the drought of 1868 had much to do with it?

Mr. STUBBS replied that the drought in 1868 had much to do with the decrease in the number of sheep in 1869. Thousands of sheep were killed which never ought to have been slaughtered; in fact, three sheep were killed instead of two—that was, they were in such poor condition that three had to be killed to make up for two fat ones.

Mr. JOHN WITHERS remarked that Mr. A. Spooner had told them that linseed was not so valuable as the cake. How was it that by pressing out the oil it became more valuable?

Mr. A. SPOONER: Because what it loses in oil it gains in other valuables.

Mr. W. C. SPOONER said one or two questions had been put to him, which he had much pleasure in answering. The most important was with regard to the value of swedes. It appeared to him to be what his son had estimated. He had taken the theoretical value as given by analysis, subject to all drawbacks. If they could extract all the water from swedes and reduce them to cake, then the positive value would be something like what he had given it, seeing that for every ten tons of nutritive matter nearly 100 per cent. had to be taken off for waste, cleaning, the carriage to the farm, &c., which reduced their value at least one-third, and what Mr. A. Spooner had stated would be the practical value of the swedes if they were not attended with those circumstances. He was not at all satisfied that if they were taken into the town they could not be compared with hay for feeding cows and other cattle. No doubt the price would then be £1 to £1 5s. per ton. They had been able by study to reduce the value very accurately. They considered the various constituents of swedes and mangolds, and placed their value at so much per ton, and the same was done with regard to linseed-cake. They would find that in yard dung, from its bulk, the ammonia and phosphate there was of less value than in Peruvian guano and other foreign manures. Mr. Blundell had asked a question with regard to hay, which stood by analysis at something like one-half of the value of many kinds of concentrated food, but in hay there was a considerable and continual waste. There were scarcely two blades of grass alike, and where the animal would eat one it often refused the other, and thus there was waste. Some was got together much better, and in a sweeter condition than other parts, and that which was too dry was converted into woody fibre. This was one of the drawbacks with regard to hay, and he thought the best possible way of using it was by cutting it into chaff. He considered there was a great waste with it, and it was not worth the price at which it was now selling—viz., £6 to £7 per ton. It was made of that value in consequence of its scarcity, and because people in the town would have it for their highly-fed horses. A statement had been shown to him with regard to some experiments tried a long time ago by Mr. McCullum, in which turnips were shown to be superior when grown with yard dung to those grown with guano. That was tried in Scotland, but there had been many experiments tried since; and although they were in favour of what Mr. McCullum had stated, yet they were nothing like he had made out. There were many experiments, although he could not lay his hand on them just now, which had put his statements on one side to a very great extent. In Scotland they found that the swede turnips were more productive than they were in England. There were not many people in England who would like to give their cattle 150lbs. of swedes per day, but the practice showed their nutritive nature in Scotland. Mangolds were never a large crop in Scotland, and they were not so nutritious. They found that mangold wurzel was more nutritious than swedes, but at the same time they should not be given too largely. Mangolds contained a very large quantity of salt, and they would find that the green leaves contained a much larger quantity than the roots, and that accounted for the leaves causing purging when given to cattle. He thought the great secret in all cattle-feeding was a variety of food. Great care was required to be taken; for if they gave too much of one food, a large quantity passed away with

out being acted upon. By mixing concentrated foods with other things a much greater advantage might be obtained. Greater results have been obtained by giving a mixture of beans and cake together. It had been shown that two different kinds of food given together caused an animal to do better because of the variety it contained. For instance, with too much cake the oil would be partly wasted, and it would pass away as unproductive matter. There was no doubt but that the practice of combining maize with other food was a very good one. The paper read had shown that linseed and rape cake were three times more flesh-making, and were more beneficial as a manure. These were calculations made from analyses by Dr. Voelcker and Mr. Lawes. Indian corn was put down at £1 5s. per ton as manuring value, linseed cake at £3 15s., and rape at £4. Decorticated cotton cake was put down at £5 6s., and decorticated earth-nut cake and others at about the same. Much depended upon the way in which the palate of the animal was suited. A gentleman, who was a successful exhibitor at Southampton and also at Smithfield, had just had some locust beans. He had also a quantity last year, and he did not know what he wanted them for unless they were given to the animals. No doubt one of his reasons was that they might have a variety of food, and so their palates would be tempted. He thought if people who relied upon the different sorts of condiments were to mix a few locust beans instead, they would find that their animals would eat their food better, and that much good would result from it. If any further explanation were wished he should be happy to give it.

Mr. LENE quite agreed with Mr. Spooner with regard to the feeding of cattle, but he was not aware there was so much salt in mangold. He had been giving each of his beasts 140lbs. of mangold, 7lbs. of linseed cake, 4½lbs. cotton cake, and 6½lbs. of bean, pea, and barley meal per day, but he never knew them so thirsty before. Since the mangold had been taken away they had begun to refuse the water, which they wanted so badly before, and thus the cause was explained.

The CHAIRMAN said: It was quite clear they must take the value of the feeding stuffs by the result of analysis. They must supply that food which would be most tempting for the animal to take up. They found themselves the more variety of food they had the better it was for them, and he believed oilcake and beans given together was very good food for cattle. The linseed gave fat, and the beans had good flesh making properties. He thought it very desirable not to tax the animal by confining it to one kind of food alone, but to judge, from what it was doing, what kind of food it required.

Mr. W. C. SPOONER remarked that it had been found by experience that 150lbs. of swedes would produce one pound of beef, and a greater quantity of mutton. That would help to show them their proportionate value.

Mr. A. SPOONER, in reply, said he had no claim to practical experience, but he thought the most advantageous way of feeding cattle and sheep was to combine a variety of food, so as to please the palate, and at the same time increase the value of the manure.

THE BUTLAND AGRICULTURAL SOCIETY.

MEETING AT OAKHAM.

The cattle exhibited were about equal to the last show in point of number. The Uppingham school medal for the best beast in five classes was carried off by Mr. T. Pulver, of Broughton, near Kettering, that also took the first prize offered for the best ox or steer, of any breed or weight, exceeding three years old, Earl Spencer winning second honours. These animals competed together at Wellingboro' with a similar result. Mr. Pulver also secured the ribbon for the best steer under two years and six months. His prize medal ox has previously won prizes amounting to £84. Mr. Searson was extremely successful, as he carried off honours respectively for the best beast shown in classes 6 to 13, for the best ox or steer under three years, for the best cow above three years, and for the best young bull, and was commended in class 5. The show of sheep generally was not numerous, but the display of fat sheep was good. The principal prize-takers were Colonel Lowther, M.P., the Marquis of Exeter, Lord Berners, and Mr. Harris, of Wootton. The number of horses exhibited was quite up to the average, and they were rather superior than inferior in quality.

PRIZE LIST.

JUDGES for Cattle, Sheep, and Pigs:

J. Clayden, Littlebury.
C. Howard, Biddenham.
W. Sandy, Holme Pierrepont.

CATTLE.

Ox or steer, of any breed or weight, exceeding three years and three months old (open to all England).—First prize, £15, T. Pulver, Broughton; second, £7, Earl Spencer, Althorp Park, Northampton. Highly commended, Colonel Reeve, Leadenham, Grantham. Commended, J. P. M'Pherson, Muirton of Kinloss, Forres; T. Ross, Hillhead, Forres.

Ox or steer, of any breed or weight, not exceeding three years and three months old (open to all England).—First prize, £10, R. Searson, Market Deeping; second, £5, W. Sisman, Kimbolton.

Cow, of any breed, age, or weight (open to all England).—Prize, £10, Col. Reeve.

Heifer, not exceeding four years old, of any breed or weight (open to all England).—Prize, £10, R. Wood, Clapton, Thrapston. Commended, T. Rose.

Steer, under two years and six months old, fed within the

district.—First prize, £10, T. Pulver; second, £5, Marquis of Exeter, Burghley Park. Commended, R. Searson.

Best beast in the show.—Prize, the Uppingham School medal and extra premium of £25, T. Pulver, for ox exhibited in class 1.

Cow, above three years old, in milk or in calf.—First prize, £10, R. Searson; second, £5, Marquis of Exeter. Commended, J. J. Sharp, Broughton, Kettering.

Heifer, above two and under three years old, bred within the district.—First prize, £7, R. Searson; second, £5, C. Chapman, Brook Farm, Exton.

Heifer, under two years old, bred within the district.—First prize, £7, C. Chapman; second, £4, C. Speed, Horn Mills, Exton. Commended, E. H. Cheney, Gaddesby Hall, Leicester.

Bull, above twelve and not exceeding twenty months old.—First prize, £10, R. Searson; second, £5, Marquis of Exeter. Commended, L. Hardy, Burley-on-the-hill.

Cow, in milk.—First prize, £5, R. Fardell, Cold Overton; second, £2, J. Edgson, Langham. Commended, R. Coverley, Cottesmore; T. Clarke.

Heifer, under three years old.—First prize, £4, J. Harris, Langham; second, £2, C. Hubbard, Langham. Highly commended, R. Fardell. Commended, R. Coverley; W. Hotchkin, Burley-on-the-hill.

Heifer calf, above six and under twelve months old.—First prize, £2, Mrs. Hammond, Egleton; second, £1, J. Harris. Highly commended, H. Hayes, Langham.

Breeding beast shown as extra stock.—First prize, silver medal value 10 guineas, J. J. Sharp; second, silver medal value 5 guineas, R. Searson. Highly commended, W. Fowler, Manton. Commended, W. Colwell, Thorpe-by-Water.

Best beast shown in classes 6 to 13.—Prize, an extra premium of £10, R. Searson.

Best fat beast, above two years and six months old, shown as extra stock.—Prize, £5, R. Wood, Clapton, Thrapston. Highly commended, Marquis of Exeter.

SHEEP.

Three fat wether Leicester sheep, one year old (open to all England).—First prize, a silver cup or £10, Lord Berners, Keythorpe Hall; second, £5, Colonel Lowther, M.P., Barleythorpe Hall. Commended, W. Shipman, Eaton Lodge.

Three long-woolled fat wether sheep of the Lincoln breed, one year old (open to all England).—First prize, £10, T. W. D. Harris, Wootton; second, £5, J. Byron, Kirkby Green, Seaford.

Four long-woolled breeding ewes, bred within the district.—First prize, £5, Colonel Lowther; second, £3, C. J. Bradshaw, Barley-on-the-Hill.

Four long-woolled theaves, one year old, bred and fed within the district.—First prize, £5, Marquis of Exeter; second, £3, W. Shipman. Highly commended, Colonel Lowther.

Four longwoolled wether lambs, bred and fed within the district (ram lambs excepted).—First prize, £4, Colonel Lowther; second, £2, W. Shipman.

Four long-woolled ewe lambs, bred and fed within the district.—First prize, £4, Colonel Lowther; second, £2, W. Shipman.

The best sheep shown as extra stock (open to all England).—Prize, a silver medal value 5 guineas, T. W. D. Harris. Highly commended, W. Shipman.

PIGS.

Fat pig under 18 months old (open to all England).—First prize, £5, R. E. Duckering and Son, Northorpe, Kirton Lindsey; second, £3, W. Hughes, Oakham. Commended, W. Carver and Sons, Ingarsby.

Fat pig under 10 months old, not to exceed 30 stone live weight (open to all England).—First prize, £5, R. Pawley, Manton; second, £3, Messrs. R. E. Duckering. Commended, T. Sator, Brooke.

Fat pig of any weight.—First prize, £2, G. Chester, Walham; second, £1, Mrs. E. Knight, Burton-on-the-Hill.

HORSES.

JUDGES (Hunters): J. Berridge, Careby. — Braithwaite, Stackley. — Cockayne, East Langton. H. Thurnall, Royston. (Cart horses) H. Wagstaffe, Chesterton.

Mare for agricultural purposes.—First prize, £5, T. W. Fowler, Hall Farm, Exton; second, £3, T. Woods, Wythley Warren.

Cart horse under seven years old.—First prize, £5, T. Woods; second, £3, J. Bailey, Hambleton.

Hunting mare or gelding above five years old (open to all England).—First prize, £20, G. H. Finch, Burley Hall; second, £10, J. Hind, Ryhall Grange.

Farmers or tradesmen, four-year-old hunting mare or gelding, bred within the district.—First prize, £20, T. Cross, jun., Melton Mowbray; second, £10, T. Stokes, Warmington.

Farmers or tradesmen, three-year-old hunting mare or gelding, bred within the district.—First prize, £10, J. Brewster, Denton Lodge, Grantham; second, £5, W. Franklin, Barford Lodge, Kettering. Highly commended, F. Bowman, Duddington.

Hunting mare or gelding shown in the three previous classes.—Prize, a gold medal value 10 guineas, T. Cross, jun.

Tenant farmers or tradesmen, mare for breeding hunters.—Prize, £5, J. J. Sharp, Broughton.

Tenant farmers or tradesmen, hackney mare or gelding under seven years old, not exceeding 15 hands 1 in.—First prize, £10, G. Cant, Harringworth; second, £5, T. Bryan, Seaton Lodge, Uppingham. Commended, R. L. Bradshaw, sen., Tinwell.

Ponies under seven years old, not exceeding 13 hands.—First prize, £3, J. Hornsby, Grantham; second, hunting whip, N. Walters, Oakham.

THE LEEDS SMITHFIELD CATTLE SHOW.

That Leeds, with its quarter of a million of people, and its many prosperous industries, should aspire to have a fat show fit to follow suit to Smithfield is not strange. Although a town of manufacturers, it does not depend on any single line of business. It makes nearly everything, not only for export to the populations of the east, but for sale to the farmers of England—clothes, machinery, and implements, everything, in fact, from a washing-tub to a steam plough. It affects, therefore, a large agricultural interest, has a corn and cattle market unsurpassed in extent of business, and a Corn Exchange to be proud of. Beyond this it is situate in the centre of the county, close to the feeding pastures of Craven on one side, and on the other to the great arable district of central Yorkshire. It is not difficult to imagine, therefore, that the Leeds Smithfield Club would be an institution of a permanent character. For fourteen years has it continued to progress, and has so extended its operations as to make it one of the leading provincial winter exhibitions. Following the show of the Smithfield Club, the Leeds exhibition is the last act in the agricultural drama that begins at Birmingham, and it is quite worthy of its position. As a Christmas spectacle of the best animal products of the kingdom it is not one whit less imposing and instructive than the meetings which have preceded it; and celebrated as Leeds is at all times for the quality of the meat provided in its shambles, it may be proud of the collection of the treasures of the farm which have been displayed in the hall of the Leeds Smithfield Club.

The entries for the present show are nearly double those of last year, and are, so far, a satisfactory test of the popularity of the exhibition amongst breeders, and a proof that the management continues to guide affairs in a judicious manner. Good, however, as is the arrangement by which all the cattle classes are kept together in the Central Hall, so as to be inspected by the visitor by following the order of the catalogue, without having to enter upon a side wing, it will on another occasion be desirable to meet the further increase of visitors to give still more space between the rows of animals, and by taking the poultry altogether away from the Cattle Hall.

The attendance of the public is, in fact, evidence of the

increasing popularity of the exhibition. About 10,000 persons visited the yard on each of the two first days, £214 18s. 4d. being taken on Tuesday, and £215 11s. 8d. on Wednesday for admissions. On Thursday the attendance was still larger. Owing to a series of contingencies and the sudden exercise of power by Veterinary Inspectors in London, the Smithfield animals were not allowed to leave the yard at the proper time, so that we have too large a proportion of vacant stalls, especially in the cattle classes. A "beggarly array of empty benches" will chill any performance, and three or four empty stalls following each other consecutively have had a marked effect in detracting from the character and appearance of two or three important classes of cattle. Unfortunately, too, amongst the absentees was Mr. Pulver's champion ox, whose second appearance at Leeds was announced by Mr. Pulver, to be his final one on any stage. The non-arrival of this ox is still more to be regretted, as his competitors at Islington were admittedly rivals scarcely worthy of his steel; while at Leeds he would have had to meet the York prize Shorthorns. There were here 33 missing animals out of an entry of 95 head of cattle.

Glancing at the animals in their consecutive order, we come first to Lord Zetland's two Shorthorn oxen, first and second here for the "any age" prize; and although defeated by the Scotch ox of Mr. Reid's for the Mayor's £20 prize as best animal in the yard, the prize Shorthorn took the Innkeeper's £10 cup as best Shorthorn ox, cow, or heifer. The York decision was in this class also reversed, the second animal at York being first here. A heavier beast than the York winner he is, but that he is a better we certainly deny. With an extra weight of 10 or 12 stones, he is not so large in girth as the other. This shows his irregular making. Indeed as a Shorthorn ox he is not equal to the York winner; and as scales are not used yet as judges, we take it that a Shorthorn ox exhibited in a Shorthorn class at a fat show must not only be merely the best *fat* ox, but the best fat ox and best Shorthorn at the same time. The winner of the York prize for the young ox belonging to Mr. Thompson has H. C. only here; but he has broken down on his legs, and was suffering when shown at York, as he is now. Mr. Drysdale's third ox is a heavy beef ox entitled to his place. Of Shorthorn cows, out of six entries

three were absent, the splendid cow winner at York belonging to Mr. W. Hill, and also Sir W. Trevelyan's, and Lord Feversham's. The first prize went to Mr. Meynell Ingram for a useful roan cow, with capital crops and loin, but very deficient between rib and hip.

The absentees in the Shorthorn heifer class reduced a large entry of eleven to that of four moderate animals, and the winner was a fair good animal, but not prime enough to get a place at York. The prize cross-bred ox is a very moderate Irish exhibited by Mr. Scholefield, Tadcaster. What mischance has put him before Mr. Ross's second prize—a large and good specimen of the polled breed—we know not. Mr. Ross, however, is in better luck among the females, and takes first prize for cows, and cup for best cross-bred with a moderate animal. In Scotch oxen, we have only three, and Mr. Reid scores first and second; and with the same 3 years and 6 months wins first in his class, the Royal Agricultural Cup, value 6 guineas, as best Scotch ox or cow, and the Mayor's Cup, value £20, as best beast in the yard.

Scotch cows were moderate in quality and few in number; and Highland oxen the same. Sir C. Trevelyan's flat-sided mouse-coloured ox had only one to meet—a rough Highlander, "uncouth and unkempt," belonging to Mr. Drysdale, Fifeshire. The Highland cow of Mr. Eastwood, as at York, was first; Sir W. Trevelyan second, *sed longo intervallo*. The Scots made up a larger class than usual. In the Tenant Farmers' classes, Mr. R. Brogden and Mr. MacPherson were first and second, both York prize animals, Mr. Brogden being second in the young Shorthorn oxen, and Mr. MacPherson second in polled oxen. Mr. Brogden's ox has rare quality and fine making, but rather lacks growth. If he had more size nothing could beat him. Mr. Brogden's young 2 years 9 months Shorthorn took third here as at York. He is of superb quality, and would go on well. He displaces a magnificent beef ox of great weight, shown by Mr. Drysdale, for third place. The latter is rather coarse in bone and common in his hind legs while his young conqueror is at least a gentleman to look at, if not quite a ripe butcher's beast.

In cows Mr. W. Hill wins, as at York, with his fine Shorthorn, and Mr. Thomlinson, third at York, is second here worthily. Mr. Reid wins for heifers, and also takes *the Cup* for these classes, with his beautiful black 4 years, the beauty that we remarked upon at York when she, as here, stood first. The milch cows were a pretty numerous class, and Mr. Parsons won the first and the Cup with a cow well up in condition and full of Shorthorn blood, as well as of milking attributes.

The sheep were nearly the same as at York; Mr. Jordan, Mr. W. Hill, and Lord Wenlock taking all the honour and profit.

Pigs we shall not particularize. At a fat show in Yorkshire especially they are never deficient; and the names of exhibitors here show us how many of the animals that we have known in agricultural competitions are now closing their gay career, and approaching that bourne from which no prize pig ever returns alive—the butchers' shambles at Christmas time.

Poultry, pigeons, and rabbits ran up excellent and large classes.

PRIZE LIST.

JUDGES.

CATTLE AND SHEEP.—H. Ambler, Watkinson Hall, Halifax; C. Edmondson, Ripon; W. Silversides, York.

PIGS.—T. Dodds, Wakefield; G. Hutchinson, Prospect House, York.

ROOTS.—J. Parker, Dunkeswick, Harewood; R. Crossley, Newsam Green, Temple Newsam.

VETERINARY INSPECTOR.—Mr. Mitchell, M.R.C.V.S.L., Leeds.

SHORTHORNS.

Ox of any age.—First and second prizes and plate, the Earl of Zetland, Aske, Richmond; third, W. Drysdale, Kilrie, Kinghorn. Highly commended: H. S. Thompson, Kirkby Hall, York.

Cow, having had a living calf.—First prize, H. F. Meynell Ingram, M.P., Temple Newsam; second, John Ingleby, Austwick, Clapham; third, Jas. Reid, Greystone, Alford.

Heifer, not exceeding four years old.—First prize, Geo. Robson, Easingwold; second, Geo. Hargreaves, Shipley; third, John Ferguson, East Grange, Forres.

OTHER BREEDS.

Cross-bred or Irish ox.—First prize, W. Schofield, Tadcaster; second, Thos. Ross, Hillhead, Forres; third, Jas. Reid.

Cross-bred or Irish cow or heifer.—First prize and plate,

Thos. Ross; second, Jas. Bruce, Burnside, Fochabers; third, the Earl of Crawford and Balcarres, Haigh Hall, Wigan.

Polled Scotch ox.—First and second prizes and the Mayor's cup for the best animal in the show ground, Jas. Reid.

Polled Scotch cow or heifer.—Cattley, Wiganthorpe, York; second, Jas. Reid, Greystone, Alford. Highly commended: Wm. Drysdale, Kilrie, Fifeshire.

Highland ox.—First prize, Sir W. C. Trevelyan, Wallington; second, W. Drysdale.

Highland cow or heifer.—First prize, R. Eastwood, Thornholme, Clitheroe; second, Sir W. C. Trevelyan.

TENANT FARMERS' CLASSES, NOT BEING LANDOWNERS.

Ox.—First prize, R. Brogden, jun., Tockwith; second, J. P. McPherson, Muirton, of Kinloss, Forres; third, R. Brogden, jun. Highly-commended: W. Drysdale.

Cow, having had a living calf.—First prize, W. Hill, Wetherby; second, M. Thomlinson, Cowthorpe, Wetherby; third, J. W. Botherby, Middleton-one-Row.

Heifer under four years old.—First prize and cup, J. Reid, Greystone; second, T. Ross, Hillhead, Forres; third, J. Walton, Horncliffe Quarries, Rawtenstall.

Fat cow, in milk, for slaughtering.—First prize, a cup, R. Parsons, Leeds; second, J. Thackray, Leeds, third, J. Botterill, Leeds.

SHEEP.

LEICESTER OR LONG WOOL.

Pen of three wethers or gimmers, under 2 years old.—First and second prizes, F. Jordan's Exors., Eastburn, Driffield.

OTHER BREEDS.

Pen of three South or other Down wethers, of any age.—First and second prizes, the Right Hon. Lord Wenlock, Escrick Park.

Pen of three cross-bred wethers, of any age.—First prize and cup, J. Bruce, Fochabers; second, J. Hunter, Fochabers, North Britain.

Pen of three horned Scotch, Lonk, or Mountain wethers, of any age.—First prize, W. Hill, Wetherby; second, R. Eastwood, Clitheroe.

EXTRA.

Silver medal.—Lord Wenlock.

PIGS.

Fat pig, large breed, of any age.—First prize, R. E. Duckering and Son, Northorpe; second, W. Lister, Armley; third, R. E. Duckering and Son.

Fat pig, hog or gilt, middle breed, exceeding 14 months old.—First prize, R. E. Duckering and Son; second, R. Hurtle, Armley; third, C. F. Hallas, Huddersfield.

Fat pig, hog or gilt, middle breed, under 14 months old.—First prize, T. Greenwood, New Wortley; second, M. Walton, Halifax; third, C. Johnson, Potternewton.

Fat sow, middle breed.—First prize, W. Lister; second, R. E. Duckering and Son; third, — Ambler, Halifax.

Fat pig, hog or gilt, small breed, exceeding 14 months old.—First prize, R. E. Duckering and Son; second, M. Walton, Halifax; third, G. Mangles, Great Givendale.

Fat pig, hog or gilt, small breed, under 14 months old.—First prize, W. S. Moiser, Beeston; second, W. Wellock, Halton; third, — Ambler.

Fat sow, small breed.—First prize and cup, R. E. Duckering and Son; second, W. Hatton, Addingham; third, W. Lister, Armley.

Pen of three pork pigs, under 20 weeks old.—First prize, T. Turner, Leeds; second, J. King, Leeds; third, W. Hill, Wetherby.

EXTRA.

Silver medals awarded.—Sow, J. C. Taylor, Leeds; two gilts, S. Walton, Halifax; sow and litter, T. Hall, Leeds.

ROOTS.

Long mangold wurzel.—First prize, G. Nussey, jun., Sutterton, Spalding; second, W. H. Gaunt, Old Thorville, Kirkhammerton.

Globe mangel wurzel.—First prize, R. L. Everett, Rushmere, Ipswich; second, G. Nussey, jun.

Swedes turnips.—First prize, J. Johnson, Arthington; second, J. Bruce, Burnside, Fochabers, N.B.

Common turnips.—First prize, J. Bruce; second, W. Ripley, Kirkhammerton, York.

Potatoes.—E. Sucksmith, Hipperholme, Halifax; second, T. Wintersgill, Gownley Foot, Masham.

ABINGDON FAT CATTLE SHOW.

The Judges were :

BRATS AND CART COLTS.—W. Franklin, Ascot; B. Castle, Charlton; and G. M. Dunn, Ardington.

SHEEP AND PIGS.—J. Edmonds, Longworth Lodge, Faringdon; and G. Wallis, Old Shifford, Bampton.

ROOTS.—J. Litchfield, Southmoor; T. N. Dewe, Drayton; and R. Pyke, Lyford.

CORNS.—J. Weaving, Oxford; Mr. Prowse, Wallingford; and C. Cox, Abingdon.

PRIZE LIST.

BEASTS.

Best fat ox.—First prize, £5, H. Betteridge, Hanney; second, W. Aldworth, Frilford.

Best steer, under 3 years and 3 months old.—First prize, £5, H. Betteridge; second, W. Aldworth.

Best fat cow.—First prize, £5, J. P. King, near Wallingford; second, W. Aldworth.

Best fat heifer, under 4 years of age.—First prize, £5, Col. Loyd-Lindsay, M.P.; second, W. Aldworth. Highly commended: H. Betteridge.

Best two heifers in calf, under 3 years of age.—First prize, £3, W. Curtis, Fernham; second, W. Curtis.

Best beast shown in class 1 or 2.—A silver cup, H. Betteridge.

Best beast shown in class 3 or 4.—A silver cup, Col. Loyd-Lindsay, M.P.

Best two heifers in class 5.—A silver cup, W. Curtis.

SHEEP.

Best pen of three fat half-bred or Oxford Down wether sheep, under 22 months old.—First prize, £3, Col. Loyd-Lindsay, M.P.; second, Jas. Mason, Eynsham Hall.

Best pen of three fat Hampshire or Southdown wether sheep, under 22 months old.—First prize, £3, Sir W. Throckmorton, Bart.; second, Col. Loyd-Lindsay, M.P.

Best pen of three fat ewes.—First prize, £3, R. Badcock; second, R. Badcock.

Best pen of sheep in any class.—A silver cup, Sir W. Throckmorton.

PIGS.

Best pen of three fat pigs of one litter, under nine months old.—First prize, £2, J. Wallis, Kingston Bagpuize; second, H. Betteridge.

Best pen of three fat pigs under 14 months old.—First prize, £2, E. Pullen, sen., Sutton Courtney; second, E. Pullen.

Best fat hog, above 14 months old, irrespective of weight, age, or breed.—First prize, £2, W. M. Tagg, Charney Wick. Highly commended: R. Aldworth, Hagbourne; H. Humfrey, Kingston, near Shrivenham; and Sir W. Throckmorton. Commended: J. H. Clarke, Maidenhead.

Best pig in the show, age to be taken into consideration.—A silver cup, W. M. Tagg.

HORSES.

Best four-year-old hunter.—Prize, £10 10s., W. M. Tagg.

Best cart colt under three years old.—Prize, £5 5s., Colonel Loyd-Lindsay, M.P.

ROOTS.

Best five acres of swedish turnips, 25 to be exhibited.—A silver cup and prize of £2, W. Graham, Pewit; second, T. Latham, Wittenham.

Best two acres of mangold wurzel, 25 to be exhibited.—First prize, £3, W. M. Tagg; second, E. Pullen, sen.

Best collection of roots, not less than 10 each, field culture, and not less than four sorts.—First prize, £2 2s., W. M. Tagg; second, W. Graham.

Best collection of roots.—A silver cup, W. M. Tagg.

CORN.

Best five quarters of wheat, one bushel in an unmarked bag to be pitched.—First prize, £2, J. H. Clarke; second, R. Aldworth.

Best five quarters of barley, one bushel to be pitched.—First prize, £2, J. H. Clarke; second, R. Aldworth.

Mr. C. P. Duffield, of Marcham Park, presided at the dinner.

CHIPPENHAM AGRICULTURAL ASSOCIATION.

PRIZE LIST.

JUDGES OF STOCK.—Francis Burnett, Wilts.

Geo. Garne, Churchill.

John Treadwell, Winchendon.

CATTLE.

Bull, cow, and offspring.—£10, T. M. Ferris, Tytherton; second, £5, Isaac Cox, Whatley. Commended: J. Smith, Bynoll.

Fat steers above three years old.—£6, R. Stratton, Burderop; second, £4, T. H. Ferris, Manningford Bohun.

Fat steers under three years old.—£6, T. H. Ferris, Manningford; second, £4, W. F. Beaven, Woodborough.

Fat cows.—£6, J. Redman, Whaddon; second, £4, R. Chillingworth, Highworth.

Milch cows of any age.—£5, H. W. White, Stanley; second, £4, Oriel Viveash, Berwick Bassett. Commended: A. M. Sloper, Compton Bassett.

A prize of £5 was awarded also to J. Limbrick, Iron Acton.

Dairy cows under four years old.—£4, Mrs. E. Burbidge, South Wraxall; second, £2, J. Fry, Lacock.

Heifers under thirty-six months old.—£4, R. Stratton, Burderop; second, £2, S. Downing and Son, Chippenham. Commended: Mrs. E. Burbidge.

Heifers under twenty-four months old.—£5, T. Hewer, Inglesham; second, £3, the Marquis of Lansdowne, Bowood. Commended: Mrs. E. Burbidge.

Heifer calves under twelve months old.—£5, R. Stratton; second, £2, T. Hewer, Inglesham. Commended: W. F. Beaven, Woodborough; Isaac Cox, Whatley.

Bull calves under twelve months old.—£5, C. Hobbs, Maisey Hampton; second, £2, R. Stratton. Highly commended: H. Say, Lacock.

Bulls under two years old.—£5, R. Stratton. Highly commended: W. Spencer, Chalfield. Commended: G. Anstie, Hinton.

Bulls above two and under three years old.—£5, Chapman Uncles, Chippenham.

Working oxen.—£2, O. Viveash, Berwick Bassett.

SHEEP.

Four fat short-wool wethers.—£3, E. Little, Lanhill. Highly commended: H. Gough, Grittleton. Commended: E. Little.

Four fat long-wool wethers.—£4, T. Little, Nercott.

Four fat cross-bred wethers.—£4, J. Hibbard, Stanton.

Eight short-wool breeding ewes.—£5, R. Henly, jun., Calne; second, £3, J. Moore, Littlecot.

Eight long-wool breeding ewes.—£5, W. Limbrick, Horton.

Eight cross-bred breeding ewes.—£4, J. Whale, Corston; second, £2, J. Miles, Stanton.

HORSES.

Two-year-old cart gelding or filly.—£3, G. Anstie, Hinton.

Mares and foals.—£5, J. Farmer, Woodshan. Commended: W. Ghey, Littleton.

PIGS.

Boars.—£2, Mrs. E. Burbidge, South Wraxall; second, £1, J. Hibbard, Stanton.

Breeding sows.—£2, R. J. Butler, Bremhill; second, £1, J. Hibbard. Commended, Mrs. E. Burbidge; R. Spackman, Broughton; E. Little, Lanhill.

Two fat pigs of one litter.—£3, R. J. Butler.

Fat pigs of any age.—£2, Mrs. E. Burbidge.

CHEESE.

JUDGES.—C. Pitt.

J. Titley.

Best cwt. thick cheese.—£3, H. Reynolds, Dauntsey.

Second-best cwt. thick cheese.—£2, T. Newman, Cray's Marsh.

Best cwt. thin cheese.—£3, C. Beaven, Shipton Moyne.

Second-best cwt. of thin cheese.—£2, H. Reynolds.

THE TREDEGAR CATTLE SHOW AT NEWPORT.

At this annual exhibition there was a change in the arrangements. Formerly the stock was judged on the Monday, the principal day of the show being Tuesday, and the proceedings winding up with a dinner; whilst a second show-day was afforded on the Wednesday. This year Monday was devoted to receiving the stock in the show-yard, and on Tuesday the business commenced. The silver cups were eighteen in number, and the classes in which fewest exhibitors appeared were those of the North Devon Cattle. Not one local farmer entered for the cup given for the best yearling bull, best two-year-old heifer, or the best four-year old heifer. For most of the other cup prizes the entries were numerous, and the neighbouring tenantry sent in stock for competition. The Glamorganshire sheep were in some force; and the pigs numerous.

From what we hear the arrangements appear to have been simply lamentable, and the judging indifferent. A visitor assures us that though the authorities had the whole day before them not the slightest information was afforded as to the winning animals until eight o'clock at night, when of course every one had left, and the public who paid its money to witness the judging was refused the information to which it was entitled. Of course under such circumstances people said the awards were touched-up afterwards; while, according to *The Hereford Times*, "rumours were flying about that the judges had made such and such decisions, and there were not wanting instances in which, the reports being believed, those gentlemen were described as a 'set of fools,' either wholly incompetent to the discharge of their onerous duties or influenced by strong prejudices." As to the judging, so far as it could be followed, some of the best animals looked to be carefully left out, and Mr. Evans, of Swanstone, was sadly ill-used. They never noticed Lady Oxford, not even with so much as a commendation, though the best of her class at the Oxford Royal meeting; nor the young bull Sir Oliver, another prize animal in good company. The whole business appears to have degenerated into a wretched muddle, and yet this meeting has all the elements of a successful show under more efficient management.

JUDGES for Cattle, Sheep, Pigs, Cart-horses, and Implements: Thomas Swingle, Langham, Oakham, Rutland; John Wigmore, Lower Weston, Ross, Herefordshire; and Rees Williams, Pencelly Castle, Breconshire. **For Riding-horses:** D. R. Williamson, The Layers, Perthshire, and H. Arkwright, Hampton Court, Leominster.

PRIZE LIST.

SILVER CUPS GIVEN BY LORD TREDEGAR.

North Devon yearling bull.—Thos. H. Riden, Washford, Taunton, Somerset.

North Devon two-year-old heifer.—Rev. A. Morgan, Machen Rectory, Newport.

Shorthorn yearling bull.—Richard Stratton, Burderop, Swindon. Commended: Rev. E. T. Williams, Caldicot, Chepstow.

Shorthorn two-year-old heifer.—Lord Tredegar, Tredegar Park, Newport. Highly commended: Richard Stratton, Burderop, Swindon.

Hereford yearling bull.—Warren Evans Llandowlas, Usk Mon. Commended: William Harris, Llansoar, Caerleon, Mon.

Hereford, two-year-old heifer.—Rees Keene, Pencraig, Caerleon, Mon.

Boar.—C. R. Wheeler, Long Compton, Shipton-on-Stour. Highly commended: A. Higgins, Hewelsfield Court, Chepstow.

Fat pig.—C. R. Wheeler. Highly commended: H. Workman, Coedkernew, Newport.

Ram lamb, long wool.—R. Leyshon, Island Farm, Bridgend, Glamorgan. Highly commended: C. Spencer, Gilestown, Cowbridge, Glamorgan.

Ram lamb, short wool.—G. Wallis, Old Shifford, Bampton, Farringdon.

Yearling cart colt or filly, bred by the exhibitor.—R. W. Bridgwater, Great Porthamel, Talgarth, Brecon. Commended: T. B. Price, Duffryn St. Nicholas, Cardiff.

Shorthorn bull calf.—A cup, value £5 5s., T. Morris, Macmore Court, Gloucester.

Shorthorn heifer calf.—A cup, value £5 5s.; R. Stratton, Burderop, Swindon.

Hereford bull calf.—A cup, value £5 5s., W. Evans, Llandowlas, Usk, Monmouth.

Hereford heifer calf.—A cup, value £5 5s., J. H. Arkwright, Hampton Court, Leominster.

Yearling heifer.—A cup, value £5 5s., T. Hewer, Ingleham, Lechlade, Gloucestershire.

Stock bull, above two years old.—J. H. Arkwright, Hampton Court, Leominster.

Cows of any pure breed, in-calf or in-milk.—J. H. Arkwright.

North Devon Four-year-old heifer.—T. H. Riden, Washford, Taunton, Somerset.

Fat cow.—S. Channing, Pillgwenlly, Newport.

Pair of yearling steers.—Lord Tredegar.

Pair of two-year-old steers.—Wm. Williams, Red House, Ely, Cardiff.

Best male horned breeding animal selected from any class in the yard.—A piece of plate, value £21, W. Evans, Llandowlas, Usk, Monmouthshire.

Best female horned breeding animal selected from any class in the yard.—A piece of plate, value £21, Lord Tredegar.

SHEEP.

Four shearling ewes, long wool.—Prize, £5, J. Williams, Caercady, Cowbridge, Glamorgan.

Four shearling ewes, short wool.—Prize, £5, G. Wallis, Old Shifford, Bampton, Farringdon.

Pen of four breeding ewes and one ram, of real Welsh mountain breed.—Prize, £6 6s., J. Stephens, Hay, Brecon.

PIGS.

Boar and sow of any breed, under one year old.—J. Seys, The Graig, Newport.

Breeding sow, with litter of pigs not exceeding three months old.—Prize, £5, Joseph Waters, Langstone Court, Newport.

HORSES.

Cart mare and foal.—W. Hall, Tynwydd, Brecon.

Cart stallion that has covered in the county of Monmouth, in 1870.—W. Duke, Cefn Farm, Llanarth, Mon.

Nag mare for general purposes, in foal, to, or with colt by her side, by a thorough-bred horse.—W. Powell, M.P., per Mr. T. Stroud, Blackwood, Monmouthshire.

Pony, under four years old.—J. Thomas, Arcade Wine Vaults, Cardiff.

Cob or galloway bred in the county of Monmouth, Glamorgan, or Brecon, under six years old, over 13 hands and under 14 hands 2 inches high.—Prize, £5 5s., M. Williams, Caerleon, Monmouthshire.

Yearling colt or filly for hunting purposes, got by a thorough-bred horse, and bred in the county of Monmouth, Glamorgan, or Brecon.—W. Powell, M.P., per Mr. T. Stroud, Blackwood, Monmouthshire.

Three-year-old colt or filly for hunting purposes, got by a thorough-bred horse, and bred in the county of Monmouth, Glamorgan, or Brecon.—W. Williams, Red Farm, Penlyne, Cowbridge, Glamorgan.

Weight-carrying hunters.—Colonel F. C. Morgan, Rapera Castle, Newport; second, Captain M. Batt, Old Court, Abertgavenny.

Light-weight hunters.—G. C. Williams, Llanrumney Hall, Cardiff; second, G. W. G. Thomas, Coedriglan, Cardiff.

Thorough-bred entire colt, two years old or upwards.—Prize, £10 10s., T. C. Hallen, Brooks Farm, Raglan.

Best and most useful implements in agriculture.—Prize,

£5, J. S. Stone, implement maker, Dock-street, Trosnant, Newport.

Best general root crop, consisting of mangold wurtzel, Swedish or common turnip, in all not less than 15 acres growing on the farm of a tenant-farmer in Monmouthshire.—Prize, £10 10s., H. S. Williams, Soutbrook, Portskewett.

Best three acres of mangold wurtzel, grown by a tenant-farmer, whose farm is situated the south side of the road leading from Newport to Chepstow.—Prize, £5 5s., V. Parsons, Caerwent.

Five acres of swedes grown within the county of Monmouth.—Prize, £5, G. Jones, Undy, Magor.

NEWPORT TOWN PRIZES

Bull, cow, and offspring; the offspring being under one year old, the cow being in milk or within three months of calving, and she and her offspring having been bred by the exhibitor.—Prize, £10, W. Evans, Llandowlas, Usk, Mon.

Pair of breeding cows, in milk, or within three months of calving.—Prize, £10, W. Evans.

Pair of two-year-old steers, bred and fed by the exhibitor.—Prize, £10, W. Harria, Llansoar, Gaerleon, Mon.

Pair of yearling steers, bred and fed by the exhibitor.—Prize, £8, J. Skinner, Abernant Farm, Caerleon, Mon.

In-calf heifer under three years old, in milk, or within three months of calving.—First prize, £7, H. Hale, Trosnant, Newport; second, £3, H. Hale.

Yearling stock heifer.—Prize, £6, W. Jones, Cefnlogell, Castleton, Cardiff.

Pen of five wether lambs, long wool, bred and fed by the exhibitor.—Prize, £5, J. Williams, Caercady, Cowbridge.

Pen of five ewe lambs, long wool, bred and fed by the exhibitor.—Prize, £5, C. Spencer, Gileston, Cowbridge.

Pen of five yearling stock ewes, long wool, bred and fed by the exhibitor.—Prize, £5, J. Williams.

Pen of five breeding ewes, long wool, bred and fed by the exhibitor.—Prize, £5, J. Williams.

Piece (not less than ten acres) of Swedish turnips, growing within the county of Monmouth.—Prize, £10, W. Watkins, Wern-y-Cwm, Abergavenny.

Piece (not less than five acres) of Swedish turnips, grown by a tenant-farmer in the county of Monmouth.—Prize, £5, H. Price, Tithe House, Undy Magor.

Piece (not less than two acres) of mangold wurtzel, grown by a tenant-farmer in the county of Monmouth.—Prize, £5, H. Lawrence, Ty-Isha, Llantarnam, Newport.

THE SANDWICH CATTLE SHOW.

Unfortunately we had an extremely wet morning, which must have prevented many of our country friends attending. The show of cattle was very good, more especially the Sussex, of which 13 were exhibited. The two years old Sussex steer exhibited by Mr. H. Page, of Walmer, took the Town Cup, being the best steer, and the three years old Sussex heifer exhibited by Bradley Brothers, of St. Bartholomew's Farm, Sandwich, took the cup presented by Mr. H. Brassey, M.P. for Sandwich, as the best heifer in the show. It ought to be mentioned that the heifer winner of Mr. Brassey's prize was a most extraordinary fine specimen of the Sussex stock, in fact, several visitors who had seen the London show were of opinion nothing better was shown there. We had a good trade for the cattle; every animal was soon sold from 6s. 6d. to 7s. per 8lbs.

PRIZE LIST. CATTLE.

SUSSEX, HEREFORD, AND DEVON.

Steers, over three and under four years old.—First prize, £3, Bradley Brothers, St. Bartholomew; second, £2, Jno. Woodruff, Weddington.

Steers, over two and under three years old.—First prize, the Town Cup and £3, Henry Page, Walmer Court; second, £2, Bradley Brothers; third, £1, Bradley Brothers.

Heifers, over three and under four years old.—Silver cup and prize, £3, Bradley Brothers.

Heifers, over two and under three years old.—First prize, £3, Bradley Brothers; second, £2, Jno. Woodruff, Weddington.

WELSH AND SCOTCH.

Steers, over three and under four years old.—First prize, £3, G. R. Harnett, and £1 to breeder.

Steers, over two and under three years old.—First prize, £3, Mr. Harvey, and £1 to breeder.

Heifers, over three and under four years old.—Prize, £3, Jno. Woodruff.

Heifers, over two and under three years old.—No competition.

SHORTHORNS, OR ANY OTHER BREED.

Steers, over three and under four years old.—First prize, £3, E. Murton, Pedding, and £1 to breeder; second, £2, Lord Fitzwalter, Goodneston.

Steers, over two and under three years old.—First prize, £3, Henry Page, Walmer Court; second, £2, Bradley Brothers; third, £1 10s., T. Harvey; fourth, £1, C. Ratcliffe.

Heifers, over three and under four years old.—First prize, £3, W. Bushell, Rowling, and £1 to breeder; second, £2, Jno. Woodruff.

Heifers, over two and under three years old.—First prize, £3, Lord Fitzwalter; second, £2, Bradley Brothers.

THE GUILDFORD FAT STOCK SHOW.—The annual show of cattle, roots, corn and poultry in connexion with the Guildford Agricultural Association, was held on Monday and Tuesday. The stock show was small, owing to the fact that a number of the beasts which would have been exhibited had been shown in London. Nevertheless, the specimens exhibited were good. On Tuesday, the principal day, and market day, the weather was miserably wet, and consequently a great many persons who would have visited the show, stayed at home. Of the exhibitors of stock we may mention prominently Mr. H. Shotter, Mr. Beale who won the 10 guinea prize, Mr. Holland who exhibited a very superior heifer, and Mr. W. S. Smith who won several prizes. The cattle were Sussex and Shorthorns. The show of sheep was very small, and there was scarcely any competition. In pigs Mr. Wells was a most successful exhibitor. His stock, and those exhibited by Mr. Holland, were bought at prices averaging £10 each. The show of roots was unprecedentedly good, taking the dry season into consideration. The attendance at the market on Tuesday was large, but the amount of stock, except perhaps pigs, was small. Some good prices were made. Messrs. Hewett and Lee sold a dozen Devons at over 6s. per stone.

WEST OF ENGLAND FAT STOCK SHOW.—On Tuesday the annual show of the West of England commenced at Plymouth. Cattle are, of course, the prominent feature of the exhibition, and here the North Devons, as at Birmingham and Smithfield, take the lead, although the animals exhibited at the up-county shows are here excluded. The South Devon breed presented a very poor appearance when compared with the breed from the north of the county. Among them was one enormous beast, the first prize taker in Class 5, without any pretensions to shape, but standing just six feet high. The Shorthorns were the next breed, and, as at Smithfield and Birmingham, they produced the champion beast of the show. The animal now taking the champion plate was shown by Mr. Bult, of Taunton. The male Herefords were nothing very striking, though the first-prize ox would have, no doubt, been deserving of favourable comment if it had been taken more care of with a view to exhibition. The cows and heifers were an exceedingly good class. In the cross-bred classes there were some good useful animals. Of the six entries of extra stock only two appeared, but these were both fine beasts. Although the show of beasts is exceedingly good, surpassing both in numbers and quality anything of the sort that has been seen at Plymouth in preceding years. The sheep classes produce many fine pens. The pigs shown by Mr. Collier and Mr. Burt were very fine specimens of their respective breeds. The roots made a splendid exhibition; among the exhibitors and prize takers being Mr. W. Harvey, Ashpington, and Mrs. Grace Barter, Berry Pomeroy. The poultry exhibition was, generally, a first-class show of 470 pens.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL: Wednesday, Dec. 7.—Present: Lord Vernon, President, in the chair; the Earl of Lichfield, the Earl of Powis, Viscount Bridport, Lord Tredegar, Lord Walsingham, Sir Massey Lopes, Bart., M.P., Sir A. K. Macdonald, Bart., Sir Watkin W. Wynn, Bart., M.P., Mr. Baldwin, Mr. Barthropp, Mr. Booth, Mr. Bowly, Mr. Cantrell, Colonel Challoner, Mr. Clive, Mr. Davies, Mr. Druce, Mr. Edmonds, Mr. Brandreth Gibbs, Mr. Holland, Mr. Hornsby, Mr. Wren Hoskyns, M.P., Mr. Lawes, Mr. Leeds, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Rigden, Mr. Sanday, Mr. Shuttleworth, Mr. Thompson, Mr. Torr, Mr. Webb, Mr. Wells, M.P., Mr. Whitehead, Mr. Jacob Wilson, and Dr. Voelcker.

The following new members were elected:

Armstrong, J. W., Fairlie, Greenock.
 Baker, Thomas, Blackstone, Bewdley.
 Broadbent, J. H., Sealand, Chester.
 Burney, Thomas, Eastleigh, Hants.
 Corden, Arthur H., Brineton, Shifnal.
 Corden, John, Great Chatwell, Newport, Salop.
 Crosthwaite, Peter, Monk's Hall, Keswick.
 Gilbey, Alfred, Wooburn House, Beaconsfield.
 Hall, W. Henry, Glen Parva, Leicester.
 Harding, William, Marksby Vale, Bristol.
 Harrison, T. Ashton, Stalybridge, Cheshire.
 Key, Major-General G. W., Manor House, Coates, Cirencester.
 Mawer, Edward, Thorney, Peterborough.
 Newport, Henry A. Wakeman, Cotton Hall, Bridgnorth.
 Nicholl, G. Whitlock, The Ham, Cowbridge.
 Nuttall, James, Chaddeaden, Derby.
 Orlebar, H. Amherst, The Rocks, East Grinstead.
 Playfair, George G., Erroll Villa, Southbrook-road, Lee, Kent.
 Rayner, Captain W. S. M., Lounde House, Benlob Hill, Upper Norwood.
 Round, D. George, Portland House, Edgbaston, Birmingham.
 Sankey, Thomas, Burntwood, Lichfield.
 Thompson, E. J., Timperley, Altrincham.
 Wilding, Joseph, Bank House, Tyldesley.
 Williams, John, Gwernhefn, Bala.

FINANCES.—Major-General Viscount Bridport (chairman) presented the report, from which it appeared that the secretary's receipts during the past month had been duly examined by the Committee and by Messrs. Quilter, Ball, and Co., the Society's accountants, and found correct. The balance in the hands of the bankers on Nov. 30 was £1,535 14s. 9d. The Committee recommended that Mr. H. J. Hine's salary be increased to £100 per annum. The Committee had met ten times and made nine reports.—This report was adopted.

JOURNAL.—Mr. Thompson (chairman) reported that a letter had been received from Captain Dashwood, in reference to the farm-prize competitions; it was recommended that Captain Dashwood be thanked for his communication, which raised some important questions, and informed that the Committee would take them into careful consideration in the event of future competitions being sanctioned by the Council. It was also reported that the Committee had met ten times during the year and made nine reports, and that they recommended the addition of the name of Mr. Charles Whitehead to the list of the Committee.—The report was adopted.

CHEMICAL.—Mr. Wells, M.P., presented the following report:—

Dr. Voelcker reports the following case of a manure sent to him for analysis, by Mr. C. S. Read, M.P., under

the name of Holman's Blood Manure. This manure was found to have the following composition:—

Moisture	...	...	...	...	...	30.93
*Organic matter	...	...	...	...	...	22.02
Tribasic phosphate of lime (bone phosphate)	...	...	...	...	...	5.06
Oxides of iron and alumina	...	...	...	...	...	5.10
Sulphate and little carbonate of lime	...	...	...	...	...	18.11
Alkaline salts and magnesia (chiefly common salt)	...	...	...	...	...	6.06
Insoluble siliceous matter	...	...	...	...	...	12.73
						<hr/> 100.00
*Containing nitrogen	...	...	...	...	...	1.91
Equal to ammonia	...	...	...	...	...	2.33

This manure was manufactured by N. R. Holman, manufacturer and dealer in agricultural tillages, Newhall Mills, Attercliffe, and Sheffield. The price of this manure is £6 a ton, delivered carriage paid to any station within 50 miles of Sheffield.

In a trade circular, Mr. Holman speaks of his blood-manure as having acquired a world-famous reputation as one of the best and cheapest tillages, and invites his friends and all consumers to an inspection of the numerous testimonials with which he has been favoured. He likewise gives an analysis, of which the following is a copy:

ANALYSIS OF BLOOD MANURE.

Medical Institution, Sheffield.

A sample of artificial manure, received from Mr. Holman, was found, on analysis, to contain in 100 parts:

Moisture and organic matters, containing 17.72 of ammonia, equivalent to 14.58 of nitrogen	64.40
Insoluble silicate and sulphate of lime	11.00
Phosphate of lime, equivalent to 4.34 of phosphoric acid	9.40
Oxides of iron and alumina	2.35
Carbonate of lime	5.10
Ditto magnesia	1.80
Alkaline salts (chlorides and sulphates)	4.45
Ditto (soluble silicates)	1.60
	<hr/> 100.00

March 1, 1865.

(Signed) W. BINGLEY, Ph.D., F.C.S.

In this analysis the manure is represented to contain more ammonia than the best samples of Peruvian guano. Supposing the sample analysed by Dr. Bingley contained only 10 per cent. of moisture, and not 32, like the sample sent to me by Mr. Read, I am at a loss to understand how the remaining 54.4 of organic matter could have yielded 17.72 of ammonia.

That amount of the richest available nitrogenous organic matter, or even of pure sulphate of ammonia, produces considerably less ammonia than 17.72 per cent. However, presuming the analysis to be correct, the question which would naturally be asked by any intelligent farmer who knows something of the market price of fertilising materials, is: Is it probable that a manure manufacturer will sell an artificial manure at £6, when he can get for the ammonia alone, which is represented to be present in a ton of the manure, over £10?

Attention is directed to this analysis, because in many instances farmers are led astray by printed analyses, which many regard as a sufficient guarantee of the good quality of the manure to which they refer. Whenever an analysis is shown, when an artificial manure is offered for sale, and such an analysis should prove to be satisfactory, we would advise the intending purchaser to obtain in the first

place a statement in writing that the bulk of the manure on delivery shall be equal in composition with that given in the printed analysis; and in the next place he should draw from various parts of the bulk several pounds of the manure, mix all the samples well together, and forward such a fairly drawn and prepared average to a competent and trustworthy agricultural chemist for analysis. Neither printed analyses nor printed testimonials in themselves have practical value, and both are often used for the purpose of deception.

The sample of Holman's Blood Manure, analysed by me, it will be seen, instead of 17.72 per cent. of ammonia, as represented in the printed analysis, yielded only 2½ per cent.; and instead of 9.4 per cent. of phosphate of lime, only 5 per cent.; and, besides a large proportion of sand and useless earthy matter, it contained 81 per cent. of water in round numbers. Such a manure would be dear at £2 5s., and I would not recommend any one to buy it at £2 a ton.

Mr. C. S. Read has kindly favoured me with the subjoined letter, and given me leave to lay it before the Chemical Committee:

Holman's Manure.

Honingham Thorpe, Norwich, Nov. 16, 1870.

My dear Sir,—On receipt of your analysis of Mr. Holman's manure, I wrote to him, stating "that I certainly should not pay for the manure." At Mr. Holman's earnest request I did not send the manure back, but agreed to his proposition to "pay whatever it was worth, according to the crop it produced." I thought that it would be a good opportunity of testing the soundness of your analysis, and accordingly sowed 4 cwt. per acre of this manure, and two different kinds of superphosphates, both costing the same price as Mr. Holman charged for his manure, viz., £6 per ton. They were applied for white Turnips after Peas, and a strip of land was left, upon which no manure of any kind was sown. The two superphosphates have grown a nice little crop of Turnips, but I can see no difference at all between the unmanured plot and Mr. Holman's blood manure. I ought to add, that Mr. Holman states, the "second crop is equally benefited as the first." I hope, for his sake and mine, it will be *more so*.

Yours faithfully,

Dr. Voelcker.

CLARE SEWELL READ.

The committee would call attention to the frequent inferiority of certain manures sold under the name of fish-and-blood manures. A sample of such a fish-and-blood manure (sent by Mr. N. N. Young, Orlingbury, Wellingboro') had the following composition:

Moisture ...	...	...	...	...	18.86
*Organic matter ...	...	...	...	...	25.63
Oxides of iron and alumina ...	...	...	...	...	4.43
Phosphate of lime ...	...	...	...	...	1.92
Sulphate and carbonate of lime...	...	...	...	...	32.72
Alkaline salts and magnesia (chiefly common salt) ...	...	...	...	...	3.69
Insoluble siliceous matter (sand) ...	...	...	...	...	12.75
					100.00

*Containing nitrogen ...	...	...	...	1.20
Equal to ammonia ...	...	...	...	1.45

This so-called fish-and-blood manure is very poor in phosphate of lime; and as dry blood and flesh yield about 16 per cent. of ammonia on decomposition, the sample analysed, producing not quite 1½ per cent. of ammonia, cannot have contained much blood or fish. It is principally composed of carbonate of lime, earth, and sand, mixed with various kinds of organic refuse matters, a little blood, some fishery salt, and a few fish-bones. Such a manure is barely worth 25s. a ton, but was sold at £6 a ton.

With respect to feeding cakes, Dr. Voelcker reports the case of a linseed cake, which was sold to Mr. Jas.

J. Bibby, Hardwicke Grange, Shrewsbury, branded, "W H Genuine." This cake he found to be adulterated with earth-nut cake, and to be of the following composition:

Moisture ...	...	...	...	...	9.20
Oil ...	...	...	...	...	9.90
*Albuminous compounds (flesh-forming matters)	...	...	...	...	26.18
Mucilage, sugar, and digestible fibre ...	...	...	...	...	30.84
Woody fibre cellulose) ...	...	...	...	...	17.36
Mineral matter (ash) ...	...	...	...	...	6.52
					100.00

*Containing nitrogen ... 4.19

In answer to an inquiry for particulars of the purchase, Mr. Bibby writes that he bought a lot of 5 tons in July, from Messrs. Fields' Mercantile Company (Limited), Shrewsbury, as a genuine cake, at £11 7s. 6d. per ton, delivered. Messrs. Fields, the dealers, state that the maker is W. Holt, of Hull.

The following correspondence ensued:

Hardwicke Grange, Shrewsbury, Nov. 2, 1870.

Dr. Voelcker, London, E.C.

Dear Sir,—I duly received yours of the 18th and 21st ult., with analysis and report on a sample of adulterated linseed cake branded "W H Genuine," and, as requested, I write to inform you of the particulars of the purchase.

The sample is from a lot of 5 tons, bought in July from Fields' Mercantile Company (Limited), Shrewsbury, as a genuine cake, price £11 7s. 6d. per ton, delivered—"Earles and King's," Liverpool cake being then £12 7s. 6d. per ton, delivered. Messrs. Fields, who are dealers, inform me that the maker is W. Holt, Hull. I have written for an explanation, and annex a copy of my letter and of the maker's reply, &c.—I am, dear sir, yours faithfully,

JAS. J. BIBBY (pro Jos. Winchester).

(Copy.)

Grinshill, Shrewsbury, October 26, 1870.

Messrs. Fields' Mercantile Company, Shrewsbury.

Gentlemen,—In July last I bought from you a parcel of 5 tons linseed cake branded "W H Genuine," which was described by your manager, and sold, as a genuine linseed cake. I regret to say, however, that the analysis of a sample by Dr. Voelcker shows the cake to be adulterated, and, of course, inferior in quality to genuine linseed cake. I enclose an extract from Dr. Voelcker's letter, and a copy of his analysis; and waiting your reply.—I am, yours faithfully,

JOSEPH WINCHESTER.

(Copy.)

Shrewsbury, October 31, 1870.

From Fields' Mercantile Company.

To Mr. Jos. Winchester, Grinshill.

We beg to hand you a copy of the letter which we have received from the crushers at Hull, and we trust that it will be acceptable and satisfactory.

[Copy of enclosure with the above.]

Hull, October 28, 1870.

Messrs. Fields' Mercantile Company.

Dear Sirs,—In reply to your favour of yesterday, enclosing "copy of analysis," &c., of 5 tons linseed cakes marked "W. & H." "Genuine," and supplied to you in July last, we beg to state that the term "genuine," as a trade brand, is not understood to signify a pure cake, which, as you are aware, is always sold at 20s. to 25s. per ton more money, and at the time we sold you the 5 tons referred to we were selling pure cakes at 22s. 6d. more. The difference between "pure" and "genuine" cake, when these brands were first introduced, was simply that the former was made from the finest seed imported, and the latter from a secondary or inferior growth, containing a considerable percentage of non-feeding admixture, such as hay seeds, &c., and generally more or less of grit, which washers have found great difficulty in screening from the seed; in fact, it could not be entirely removed. For some time past, therefore, it has been the general custom of the trade to use fine clean seed also for "genuine" cakes, reducing the price by the admixture of a small proportion of other good feeding stuff, thus producing what we believe to be a better feeding

cake at the same cost. We may add that we have always supplied to our friends a cake of quality at least equal to any on our market at the same price; and the analysis you have sent us shows that cake sent you was of good feeding quality, and, we believe, for feeding purposes if anything a little cheaper in proportion than a "pure" cake at 20s. to 25s. per ton more money.

[Copy of reply to the foregoing.]

Grinshill, Shrewsbury, November 2, 1870.

Messrs. Fields' Mercantile Company, Shrewsbury.

Gentlemen,—I have to acknowledge receipt of yours of 31st ult., enclosing copy of a letter from the manufacturers of the cake, bought from you in July, in reply to the complaint of its being adulterated.

As the cake was not only sold as branded "Genuine," but as a "Genuine Cake," I do not consider the explanation at all satisfactory. No trade usage can justify an adulterated cake being sold as "genuine."

I was not aware, till your secretary informed me on Saturday last, that the makers quoted for "pure" cake a higher price than "genuine;" and I consider this fact being known to you ought to have led to inquiries before the sale as a pure cake of that branded "Genuine."—I am, gentlemen, yours faithfully,

JOSEPH WINCHESTER.

P.S.—I send a copy of the correspondence to Dr. Voelcker.

Two other cases, where cakes sold as pure were found on analysis to be adulterated—one with oat-dust, and the other with earth-nut cake and beech-nut cake, came under Dr. Voelcker's notice; but the committee think that the evidence in these instances, though sufficiently convincing, might not have the requisite legal force to warrant the publication of the names of the vendors.

In pursuance of the recommendation made by the committee in their last report, a suggestion was forwarded to Messrs. Thomson, Bonar, and Co., that some standard of quality for guano should be settled upon by the importers, and all cargoes valued accordingly. This communication has been transmitted by Messrs. Thomson, Bonar, and Co. to Senor Toribio Sanz, the agent of the Peruvian Government, and this gentleman has undertaken to submit the matter to the authorities in Peru.

With reference to the case of Mr. W. Bradburn, the committee have to report that they have received notice from that gentleman's solicitor that it is his intention to take legal proceedings against the Society; and the secretary having been requested to furnish the name of the Society's solicitor, it is recommended by the committee that the question of choosing a solicitor to represent the Society in this case be referred to the Finance Committee.

The committee have met six times, and issued reports in March and June.

They recommend that extracts, as usual, from Dr. Voelcker's quarterly report, be published in the agricultural journals.

They recommend the following to be the list of the members of the Chemical Committee:—Lord Vernon, William Wells, M.P., W. J. Edmonds, D. R. Davies, J. D. Dent, M.P., Sir Massey Lopes, E. Holland, C. Wren Hoskyns, M.P., Lord Lichfield, J. B. Lawes, Dr. A. Voelcker, Jacob Wilson, and C. Whitehead.

These reports were adopted.

STOCK PRIZES.—Mr. Milward (chairman) reported that the list of prizes to be offered by the Wolverhampton local committee had not been completed, and that they therefore recommended the publication of the Society's prize-list as sanctioned by the special Council summoned for the purpose, with an announcement that a complete prize-sheet giving the prizes offered by the local committee will be issued as soon as possible. The annual report of the committee was also presented. These reports were adopted. In accordance with the notice given

at the last monthly Council, it was then moved by Mr. Milward "that the resolution of June 1, respecting prizes for mules and asses be rescinded." This motion was seconded by Mr. Jacob Wilson, who stated that the Welsh agricultural societies, whose prize-sheets he had been able to obtain, did not offer prizes for these animals, although Wales was considered their great stronghold. The motion was supported by Mr. Randell, Mr. Booth, and Mr. Torr, who maintained that the small farmer should rather be encouraged to breed mountain ponies of good character in preference to donkeys. On the other hand, the Earl of Powis supported the June resolution, which had been proposed by himself, on the grounds then stated, and remarked further that it was as desirable for the Society to aid the small farmer by offering prizes for asses, as to aid the large farmer by offering prizes for steam-engines. He was supported by Lord Walsingham, who considered the breed of donkeys capable of great improvement; by Colonel Challoner, who urged the quality of endurance possessed by mules; and by Mr. Wren Hoskyns, on the ground that if such animals were extensively employed in agriculture, it was the duty of the Society to attempt to improve the breed. Ultimately, it having been acknowledged that, as mules are not breeding animals, it would be against the practice of the Society to offer prizes for them; the question was put with reference to donkeys. On a division, Mr. Milward's motion was carried by 20 votes against 7.

VETERINARY.—Major-General Viscount Bridport (chairman) reported that, up to the present time, they had received no report from Professor Simonds with regard to the experiments which they had requested him to make in pleuro-pneumonia. The committee had met four times during the year, and made four reports, and they recommended that the name of Mr. M. W. Ridley, M.P. be added to the list of the committee.—This report was adopted.

GENERAL WOLVERHAMPTON.—Mr. D. R. Davies reported that the ex-mayor, on behalf of the local committee of Wolverhampton, having explained that the siding from the goods station to the showyard, which the local committee had undertaken to make, would entail considerable expense on them; the committee recommended that the Wolverhampton local committee be relieved of their undertaking to make the aforesaid siding, on the condition that the expenses to exhibitors shall not be thereby increased, and that the local committee add prizes to the amount of £1,000 to the Society's prize sheet. The contract between the local committee and the Society not to be in any other respect affected by this agreement.—This report was adopted.

SHOWYARD CONTRACTS.—Mr. C. Randell reported that the members of the committee had each been supplied with a copy of the conditions and specifications for a new contract for the erection of showyard works, as ordered by the Council, and that these conditions having been finally considered by the committee, they recommended that they be now printed under the direction of the secretary, and that he be authorised to advertise for tenders. It was also reported that the surveyor had supplied the Wolverhampton local committee with a plan of the intended showyard, and had given instruction for the necessary draining, levelling, removal of fences, and forming approach-roads. The annual report stated that the committee had met nine times and made seven reports to the Council; that they had been perfectly satisfied with the showyard works as carried out by the present contractor under the superintendence of the surveyor; and that, as the existing contract will expire at the conclusion of the Wolverhampton meeting, they had made the necessary preparations for obtaining tenders for a new contract to commence at that time. These reports were adopted.

SELECTION.—On the motion of the chairman of this committee (Mr. Thompson) the list of the committee for the ensuing year was discussed and agreed to. The annual reports of the Implement, House, and Education Committees were also received and adopted.

The Earl of Lichfield moved, "That in selecting a town for the holding of the exhibition in 1872, the plan of the Bath and West of England Society be adopted." In support of this motion he urged the unnecessary expense that many towns are put to under the present system, and the feeling of annoyance caused by defeat, which he regarded as more important to the Society than the question of expense. The effect on the success of the meeting was also stated to be very marked, as many did not subscribe to the local fund of the successful town on the ground that they wanted the meeting held a tone of the other towns which had been put in competition. In anticipating objections that might be brought forward, he urged that the only advantage accruing to the Society by the competition was occasionally an increased subscription from the winning town, all other arrangements being made after the selection of the town. Mr. Holland, in seconding the motion, stated that the Bath and West of England Society found no difficulty in working their scheme, and that by it no jealousy was created, and no expense incurred. Mr. Rigden, although a member of the Council of the Bath and West of England Society, preferred the plan of competition, and considered that quite as much offence would be given to the towns not selected, as is now taken by those which compete unsuccessfully. Mr. Randell and Mr. Milward urged the greater requirements of the Royal Society, and the difficulty that would be raised if the first town selected were either incapable or unwilling to receive the Society. Mr. Wren Hoskyns and the President gave instances of the bad feeling which had been created, in the districts in which Herefordshire and Derbyshire are situated, by unsuccessful competition; and Mr. Torr rebutted the charge, which was made in some districts, of the conclusion of the Council in certain cases having been foregone. Mr. Thompson referred to the gradual expansion of the Society's exhibitions under the competition principle; but at the same time considered that now it might be advisable to discuss whether the annoyance caused in some instances might not be averted by a modification of our practice. He therefore suggested that the subject should be referred to a committee. Lord Lichfield having adopted this suggestion, it was resolved: "That a Committee be now appointed to consider and report to the Council whether it is in their opinion desirable to make any change in the present mode of inviting competition between the leading towns of the district selected for the Society's country meeting; the committee to consist of the Earl of Lichfield, Mr. Wells, M.P., Mr. Wren Hoskyns, M.P., Mr. Randell, Mr. Thompson, Mr. Torr, and Mr. Jacob Wilson. The secretary was then instructed to send the usual letters to Cardiff, Cheltenham, and Hereford. Mr. W. J. Edmonds withdrew the motion of which he had given notice, viz.:

"That the sum of £10 to be voted to the Cirencester Chamber of Agriculture, for the purpose of assisting its committee to carry out, in conjunction with the Professors of the Royal Agricultural College, manurial and other experiments upon corn and root crops."

A communication was received from the Royal Dublin Society, stating that in accordance with a newly enacted bye-law, the President of the Royal Agricultural Society was *ex officio* an honorary member of the Royal Dublin Society.

A letter having been read from Mr. C. E. Amos, the Society's consulting engineer, resigning his office, it was moved by Lord Bridport, seconded by Mr. Thompson, and carried unanimously, that

"The Council have received with much regret the resignation of Mr. Amos, the consulting engineer of the Society, and they cannot do so without recording their sense of the very valuable services rendered to the Society by Mr. Amos for so many years, and that it be referred to the Committee of Selection to consider and report to the Council in what mode their appreciation of the valuable services rendered by Mr. Amos can best be expressed and conveyed to him."

A letter was read from Mr. Hassall, resigning his seat at the Council.

The annual report of the Council to the general meeting was prepared.

The Half-yearly Meeting of this Society took place on Thursday, at noon, in Hanover Square; the President, Lord Vernon, in the chair. The attendance was, as usual at the December meeting, numerous, and rather above the average even for the Smithfield week.

The SECRETARY, Mr. H. M. Jenkins, read the Report of the Council, which was as follows:—

The Council of the Royal Agricultural Society of England in presenting their Half-yearly Report, have to state that since the last General Meeting in May, 3 Governors and 39 Members have died, and the names of 62 Members have been removed from the list; on the other hand, 3 Governors and 172 Members have been elected, so that the Society now consists of

74 Life Governors,
74 Annual Governors,
1547 Life Members,
3899 Annual Members,
15 Honorary Members,

making a total of 5609.

Conformably with the provisions of the Charter the Council have enacted the following Bye-law:—"Members who have paid their annual subscriptions for 20 years or upwards, and whose subscriptions are not in arrear, may compound for future annual subscriptions, that of the current year inclusive by a single payment of £5."

The half-yearly statement of accounts to the 30th June, 1870, has been examined and approved by the auditors and accountants of the Society, and has been published for the information of the members in the last number of the *Journal*. The funded capital of the Society remains the same as at the last half-yearly meeting, namely, the permanent fund of £20,000 New Three per Cents., and the Reserve Show-fund of £4,612 7s. 8d. New Three per Cents.; but the deficiency in the Show-yard receipts at the Oxford Meeting entailed a cost to the Society of more than two thousand pounds. On the 1st instant the actual balance of the current account at the London and Westminster Bank was £1,535 14s. 6d.

Notwithstanding this pecuniary loss, the Council have reason to congratulate the members of the Society on the result of their second meeting at Oxford. The entries of implements, cattle, sheep, and pigs were more numerous than at any previous meeting of the Society, while the quality of the animals exhibited in most classes reached the highest standard.

The most distinctive feature of the Oxford Meeting was the competition for the farm prizes offered by Mr. Mason and the Society for the two best managed farms in the Oxfordshire district. The awards of the judges were made known at the general meeting of members held in the showyard, and, on their recommendation, a third prize was added by the Society. The report of the competition, with descriptions of the prize and commended farms, written by Mr. H. W. Keary, one of the judges, has been published in the last number of the *Journal*. The farming of every district has its strong and its weak points, and each season its peculiarities. To point out and record these seems a fitting object for the Society's efforts, and must offer valuable and instructive lessons to agriculturists generally. The Council are endeavouring to promote a continuation of these competitions by offering, in conjunction with the landowners of Shropshire and Staffordshire, similar prizes for the two best managed arable and dairy farms in a district to be hereinafter determined upon in connection with the Wolverhampton meeting.

The Council refer with satisfaction to the two numbers of the Society's *Journal* published during the current year, which contain papers of more than ordinary interest. The Report

on the Agriculture of Belgium especially calls for particular notice, as it is an able description of the rural economy of a country whose farming has been so frequently and so loosely described by agricultural writers, that a detailed and trustworthy account of the daily doings of Belgian farmers is a valuable addition to existing knowledge on the subject. It is very creditable to Mr. Jenkins that in the short period which has elapsed since his appointment as editor he should have made himself sufficiently conversant with both the science and practice of agriculture to be able to write a report of this high character.

In accordance with the Society's classification of implements for trial at the country meetings, machinery suitable for steam-cultivation will be tried at Wolverhampton. Keeping in view the increasing importance of steam power as a means of good cultivation, and especially as a means of improving heavy land, the Council have extended and developed the scheme of prizes hitherto offered for implements and sets of tackle suitable for steam-cultivation. In order to meet as far as possible the requirements of every class of agriculturists, they have decided to offer prizes for the best combination of machinery for the cultivation of the soil by steam-power, under three heads—viz.: 1, without imposing any restrictions; 2, limiting the weight of the engine to ten tons; and, 3, stipulating that the combination of machinery can be worked by an ordinary farm-engine, whether locomotive or portable. The president of the Society has still further extended this scheme by offering a silver cup, value £100, for the best combination of machinery for the cultivation of the soil by steam-power, the cost of which shall not exceed £700—the engine to be locomotive, and adapted for thrashing and other farm purposes. In this way the Council has endeavoured to include the whole subject, so far as concerns the sets of tackle; and, in addition, with a view to render the result as complete as possible, they have decided to offer a special prize for the best implement of each description suitable for steam-cultivation—viz., windlass, snatch-block or a substitute, plough, digger, cultivator, harrow, roller, drill, skim-plough or scarifier, root or stone extractor, and sub-soiler. They also offer a prize for the best implement or part of tackle not qualified to compete under the foregoing heads, and for the best combination of any two or more of the above-mentioned implements, not qualified to compete for the general prizes. The Wolverhampton prize-sheet further deals with the subject of steam-traction, and prizes are offered for the best agricultural locomotive engine applicable to the ordinary requirements of farming, and for the best waggon for agricultural purposes to be drawn by the above-mentioned engine. The Council have also decided to offer a series of prizes for implements and machinery used in the cultivation and management of hops.

The continued increase in the number of implements exhibited at the country meetings of the Society has again received the careful attention of the Council. They have decided that no exhibitor shall be allowed to enter duplicates of the same article, and that a maximum fine of 10 per cent. on the declared price shall be imposed for each article exhibited in breach of this rule; but that in no case shall the fine be less than £1. They hope that this step will have the desired effect of preventing any unnecessary extension of the exhibition without curtailing its usefulness or diminishing its interest.

The Council have received with much regret the resignation of Mr. C. E. Amos, the consulting engineer of the Society. In recording their high sense of the very valuable services which Mr. Amos has rendered to the Society during the 23 years that he has fulfilled the important duties of his office, they feel sure that they are expressing the general opinion of the members of the Society.

The regulations affecting the awards of medals to miscellaneous articles have also been revised, and it has been resolved that in future no medal shall be awarded to any implement included in the quinquennial rotation which is not placed in the classes tried at that meeting, nor to any miscellaneous article capable of trial until it has been subjected to such trial as the stewards may direct.

In the stock prize-sheet for the Wolverhampton meeting the Council have made further additions to the prizes which have hitherto been offered for live stock. In particular, they have added a fourth prize in the classes of Shorthorn bulls above one year old, but have somewhat reduced the amount

of the first prize; they have offered separate prizes for the two breeds of Guernsey and Jersey cattle; and they have decided to establish a series of classes for Cheviot and other mountain sheep. In order to ensure the purity of blood of the Shorthorns exhibited at the Society's country meetings, it has been resolved "that each animal entered in the Shorthorn classes shall be certified by the exhibitor to have not less than four crosses of Shorthorn blood, which are registered in the 'Herd Book.'"

The Council have been requested by her Majesty's Commissioners for the International Exhibition of 1871 to assist them in forming a collection of live specimens of the best breeds of animals whose wools are principally used in the woollen and worsted manufactures, by recommending breeders of good examples of the different classes of long-wool, short-wool, Down and mountain sheep. The Council have therefore placed in the hands of the commissioners the Catalogue of Stock exhibited and the lists of stock-prizes awarded at the last three Country Meetings of the Society.

The Council have fixed the commencement of the Wolverhampton Meeting for Monday, the 10th of July. The arrangements for the arrival and departure of the Stock, and for the opening and closing of the showyard remain the same as at Oxford; but as the trials of implements will be of an unusually extensive nature, it has been decided that they shall commence a fortnight before the show instead of a week.

During the past half-year, the Consulting Chemist of the Society has presented two quarterly reports on manures and feeding stuffs forwarded to him for analysis by members of the Society. These Reports, giving the names of the dealers and the analyses of the substances are regularly published in the Agricultural Journals as well as in the Journal of the Society. This publication has produced some dissatisfaction on the part of vendors whose articles have been analyzed; but the Council are prepared to defend their action in this matter, and believe that no part of their work is more valuable to agriculture than the analysis and exposure of inferior or adulterated manures and feeding stuffs. In several instances the dealers have made money compensation to the purchasers, and the Council regret that in some of these the purchasers have been unwilling to give up the names of the dealers, resting satisfied with the settlement made in their individual cases.

The variation in the quality of guano as now imported, has been under the consideration of the Chemical Committee, and a communication has been addressed to Messrs. Thomson, Bonar and Co., the agents of the Peruvian Government, suggesting that the guano trade might be regulated by some standard analysis, and that deductions from the price might be made according to the variations from such standard. Up to the present time, however, no satisfactory settlement of this matter has been suggested.

The Council have renewed the education grant for the year 1871 subject to the following alterations in the scheme which was tried this year:

1. That the next examination shall commence on Tuesday, April 18, 1871.
2. That the forms of entry, duly filled up, together with a certificate of general education, must be forwarded to the secretary by March 1, 1871.
3. That no candidate shall be eligible for the Society's prizes who has completed his 21st year previous to the said March 1; but that any candidate, irrespective of age, may compete for the Society's certificates.
4. That the prizes for aggregate merit, to be awarded to successful candidates who are eligible and are placed in the first-class, shall be: 1st prize, £25; 2nd, £10; 3rd, £5.

The Council have watched with apprehension the spread of rinderpest on the Continent. The establishment of water-side markets, the slaughter of cattle from the scheduled countries at the port of landing, and the inspection which the animals undergo before embarkation and after their arrival in this country, encourage the Council to hope that we may escape another outbreak of the cattle-plague in England.

By order of the Council,

H. M. JENKINS, Secretary.

Mr. NEILD, in moving the adoption of the Report, said he regretted to perceive that the number of members seemed not

to have increased, the number of life and annual members still being only a little over 5,000. If it were true, as he believed it to be, that the cause of the Society was that of the farming interest throughout the kingdom, the number ought to be at least quadrupled. He had noticed with some little concern the amount of loss connected with the Oxford meeting; but they must not estimate the shows altogether by the financial results, and he felt sure that if it should ever become necessary to make an appeal, with regard to funds, the Council would meet with a hearty response from the agriculturists of England. It was almost impossible to overestimate the beneficial results to British agriculture which would arise from the reading of the reports on the prize farms. A more interesting document had never been issued by the Council (Hear, hear). He did not like praising men to their faces, but he must say that their worthy secretary had earned the approbation of all the members by the able manner in which he had drawn up the report on the agriculture of Belgium (Hear, hear). That subject was referred to at the Farmers' Club on Monday evening, and, admirable as the details of continental farming were in some respects, what he had heard there as well as the reports on the prize farms showed that English farming would compare very favourably with that of foreign countries (Hear, hear). He observed with great pleasure the allusion in the Report to the trial of machinery suitable for steam cultivation at the Wolverhampton meeting. All the implement makers of the country would thus have their attention directed to the matter, and he hoped that important results would follow. He must say, in passing, that it was due to the President of that Society that they should all express their gratitude and delight at his noble offer of a prize of a silver cup of the value of £100 "for the best combination of machinery for the cultivation of the soil by steam-power, the cost of which shall not exceed £700" (cheers). He longed to see the day when the best kind of machinery would be at the command of small farmers. Large farmers could take care of themselves, but there were many small ones who could not avail themselves of the best machinery at the present prices. He was glad to see what the Council said about duplicate implements, the exhibition of which had become such a serious evil that it was absolutely necessary to put some check upon it. They must all concur in the Council's regret at the resignation of Mr. C. E. Anon, the Consulting Engineer of the Society, who had for many years rendered valuable service (cheers). He was glad that so much attention had been paid to the adulteration of manures and feeding stuffs. Such adulteration was not merely a commercial wrong; it was a moral injury for men who had dealings with farmers to practice deception upon them with regard to the quality of seeds or manures. An ordinary loss arising from trade practices might be rectified in a month; that was a loss which extended over a year, and the injury to the farmer and his family was very serious. No doubt what had occurred would cause farmers to exercise greater caution with regard to those of whom they purchased, and he thought they were very much indebted to the Council for endeavouring to secure fair-dealing (Hear, hear).

Mr. ROBERTS, in seconding the motion, said he considered the Report eminently satisfactory; while even as regarded the number of members—the only point on which the previous speaker complained—he reckoned that there was an increase of 71. The number of life members had been augmenting for several years past. It now amounted to 1,547, and that showed the necessity of having a considerable funded capital, seeing that those 1,500 members would during their whole life be receiving the *Journal* and other advantages without paying anything for them. The Council did not appear to have recently increased the amount of funded property, and he thought that fact would be viewed with satisfaction. What they desired was, he believed, to store up knowledge and information for the present and future generations, and not to accumulate money unnecessarily. He noticed in the Report that the Council were determined not to rest satisfied with those achievements of the past which had done so much good, but were introducing new elements. The scheme of giving prizes for the best-managed farms would, he thought, prove exceedingly useful. Hitherto the Society seemed to have almost confined itself to encouraging improvements in breeding of animals and the manufacture of implements. In both of these it had been very successful, but he hoped it would be equally so in giving direct encouragement for the improved cultivation

of the soil itself. He would suggest to the Council whether it might not be desirable in some way to give direct encouragement to persons who were experimenting with a view to improved cultivation. As he heard Mr. Jenkins read the paragraph in the Report, which related to the *Journal*, he could not help being struck with a contrast between that year and two years ago. When they were first told that a new secretary had been appointed, the feeling excited by the announcement was very different from that which he believed was now universal—he meant the feeling that the *Journal* itself, not merely Mr. Jenkins' paper, but the *Journal* itself was throughout a success. It was valuable and not dull (cheers). Mr. Jenkins had succeeded excellently as editor, and had established himself within a very short time in the good opinion of the members (Hear, hear). He (Mr. Roberts) thought they might expect great benefit from the prizes offered for steam cultivation by their president, and it was gratifying to find that such encouragement would be given at Wolverhampton to that department. It would also be a great advantage to limit the size of the show-yard in some measure, by excluding duplicates. At the Oxford meeting he felt that the increasing extent of the show yard was becoming a serious evil. He would suggest that an exception should be made in the case of implements which were intended to compete for prizes—that it should be made compulsory to exhibit such implement, and that they should be shown by themselves, say, in one acre out of seventy, and should be accessible only to members of the Society. It was highly inconvenient to have to hunt about in all directions for what you were looking for, and he thought the arrangement which he suggested would be satisfactory, both to members and exhibitors. As regarded the publication of the reports of the analyses of food and manures, he thought that, though it might not have been very pleasing to some traders, it could hardly have given dissatisfaction to the consumers (Hear, hear). When they found that acts which were clearly dishonest were justified on the score of their being part of the customs of the trade, the defence being to the effect that it was generally the practice of the great body of the trade to humbug the farmer, and therefore each individual was justified in humbugging him (laughter), it was high time for that Society to take the matter in hand. He would suggest for consideration whether the publication of adulterations of seeds should not be added to that of adulterations of manures (Hear, hear). He was sure that any efforts of that kind would meet with the cordial approval and support of all the members, and if they were thus enabled to secure a good quality of manures, of feeding stuffs, and of seeds it would be a great boon. He was glad to find that the Council intended not only to continue the education grant but also to admit candidates over 20 years of age to competitors for prizes. In conclusion, he must express his satisfaction that the danger of the introduction of rinderpest appeared to have been averted partly through the care with which the Council had watched over their interests (cheers).

Mr. SIDNEY, the Secretary of the Agricultural Hall Company (Limited), said on the last occasion that he attended a meeting of the Society he felt it his duty to make some very strong observations on the principle on which the Secretary had been elected. Since that time he had had the honour of making the acquaintance of the Secretary, and had watched the course which he had pursued; and while he retained his opinion on the question of the mode of election, he must do full justice to the industry, the energy, and the intelligence with which that gentleman had performed the duties of Secretary and sub-editor; he said sub-editor because it was perfectly childish to imagine that a gentleman, however intelligent and however highly educated, who came there two years ago with his mind like a blank sheet of paper, was now in a position to instruct the farmers of England on the subject of agriculture. He should not have risen had it not been for that paragraph of the Report of the Council which called attention to the Report which had appeared in the *Journal* on the agriculture of Belgium. There was a very important omission in that paragraph. No doubt Mr. Jenkins was just the man whom any one would wish to have under him for the purpose of sub-editing such a Report; but he prepared that document in conjunction with Professor Voelcker, who had spent 20 years in studies of that

kind, who was thoroughly up to the science and practice of agriculture, and whose words were received with respect north and south, east and west (Hear, hear). It was Professor Voelcker's Report, and not Mr. Jenkins's. That Mr. Jenkins had acquired sufficient knowledge of the science and practice of agriculture within a couple of years to deal with practical questions of agriculture was too absurd a notion for anybody to entertain. He thought, however, they had been exceedingly fortunate in obtaining such a Secretary (cheers), and before leaving that room he should perhaps suggest a little work for the Secretary to do which was congenial to the spirit in which he had carried out his duties. But he could not sit there and hear Professor Voelcker passed over or to hear it impliedly suggested that the observations which he made at a former meeting with regard to the election of the Secretary were not founded in fact.

Dr. VOELCKER: Allow me, my lord, to say one or two words. I am very much obliged to my friend Mr. Sidney for mentioning my name in connection with the Belgian Report; but I hope it will not be regarded as an expression of mock modesty if I give full credit to my friend Mr. Jenkins for his share in drawing up that document (cheers). I can with great propriety and honesty say that he had the lion's share. My part in the business was more in acting as an interpreter than as a composer of the Report (Hear, hear). I did what I could to assist Mr. Jenkins; but after all, much credit is due to him. I wish to acknowledge that publicly, because my name has been associated with his, and because the chief credit which I take with respect to the journey to Belgium is that of having acted as an interpreter (cheers).

Mr. THOMPSON: I should like to say one or two words on different points which have been referred to by gentlemen who have spoken. First with regard to the number of members. The gentleman who moved the adoption of the Report said it did not quite appear whether there was an increase or a decrease in the total. There is a slight increase, but it is so small that, practically, the numbers remain the same as before. I think the addition to the total is 12. I quite agree with him that there might with advantage be a large increase in the number of members; but I really should not like to ask the tenant-farmers of England to come and subscribe. They are the best judges as to how they ought to spend their money, and whether the advantages to be gained by joining this Society are sufficient to induce them to subscribe or not (Hear, hear). I think we can show results which are satisfactory so far as they go, and would bear extending very much with benefit to agriculturists themselves. If they think so they will no doubt join the Society in greater numbers. We go on in a steady course, trying to improve and to take the lead in agricultural matters. If we succeed in convincing farmers that we have done so they will no doubt join us, but we don't think it necessary to go round with the begging box (Hear, hear, and laughter). Now as to the investment of funds, the gentleman to whom I have just alluded remarked that we had not much increased the permanent fund. It is true that £20,000 is about the amount which had been invested some years ago; but there were two or three years in one of which we had no exhibition owing to the cattle-plague, and in one or two more of which we held our meeting in places which were less populous than some others which we had visited, the result being that, because the receipts were diminished, we were obliged to draw upon the fund. But the effect of the Manchester meeting was to restore the permanent fund to £20,000, and give us a reserve show-fund of £4,600, which is practically an addition of nearly £5,000 to the permanent fund, I mean as contrasted with the actual income intended to be drawn upon if the receipts fall below the amount necessary to keep up the average amount of the prizes and the average expenditure of the Society. The object of having a permanent fund at all is clearly to make up for a bad year or two; for it was never contemplated by the founders of the Society, nor would it be thought desirable by the members that we should invest so large a sum that the annual income arising from it would make the Society independent of the annual subscriptions of members (Hear, hear). It is clear that a Society of this kind ought not to continue to exist if its operations are not sufficiently useful to secure the support of a large body of the leading agriculturists of the kingdom (Hear, hear). That is what the Council ought to look to as their regular means of support, while the permanent

fund is merely a provision for meeting any unusual deficiency which may exist from time to time. Now in order to prove what I said just now, namely, that the operations of the Society are of great use and benefit to the agricultural body, I will venture to allude to two points which are made prominent in the Report, and which are just now points of special interest to agriculturists. One is the new work lately begun by the Society of ascertaining results already attained, whether by offering prizes for the best managed farms, with a view of giving a detailed account of different modes of management, the prize being obtained by open competition against neighbours in the district, or by sending out on a tour of inspection men who are competent to examine different representative farms in different districts, and give an account of them to the public. That I call a record of results already attained. Such records are very valuable, but they are also very expensive. The cost of sending round gentlemen to prepare reports is very serious, and it is only when the Society is in a good position as regards funds that it can undertake work of that description in addition to the ordinary show (Hear, hear). The accounts of what have been done when they are clearly understood, and when they relate what has proved successful, are an encouragement to others to go on improving, and point out to them the way of improvement. I believe that nothing is more likely to prove advantageous than this increase and extension of steam cultivation. Our President, Lord Vernon, has very liberally, and as I think very usefully, offered a prize for steam apparatus adapted to be generally used by farmers not holding very large farms, nor possessing very much capital. Men of very large capital can of course afford to provide themselves with any sort of apparatus which they may think likely to prove useful. I could mention one tenant-farmer who having one double set of Fowler's steam apparatus has this year ordered a second double set. But this is an exceptional case. The occupiers of moderate-sized farms can generally only obtain the advantage of steam cultivation by means of an apparatus to be purchased at a not inordinate cost, and which will not only cultivate the limited number of acres on the farm that require to be cultivated, but may also be used for thrashing and chaff-cutting, and be easily moved from one part of a field to another, in fact be a generally useful slave (laughter). If we can obtain general efficiency and have a thoroughly-useful servant for a cost which is put down as the limit of competition for Lord Vernon's prize, we shall then have made considerable progress towards enabling a man holding a moderate-sized farm to purchase steam machinery for himself (Hear, hear). But, then, there is the case of small farmers. These will certainly not be able to buy at all (Hear, hear). But there are companies—and I am happy to say that they are increasing and extending very much—for letting out steam implements for hire; and I have sanguine hopes that these societies will enable even small farmers to use steam apparatus (Hear, hear). I heard yesterday of one company, my informant being one of the principal promoters, which had thirty sets of steam apparatus at work last autumn: that looks like business (Hear, hear). There are one or two northern counties—I may especially instance Cumberland—in which such companies are getting at work; and I hope that we shall soon see steam cultivation becoming as general as it ought to be (cheers). Mr. Sidney considers it a very absurd idea that a gentleman who has only been for two years secretary and editor should have written a report like that on Belgian agriculture [Mr. Sidney: "No, no"]; nevertheless, it is a fact that he did write that report; and therefore in the official Report which has just been read no reference is made to Professor Voelcker's valuable assistance in the course of the Belgian tour; but reference is made to the report itself, the writing of which was the work of the secretary and editor; the Council thus calling attention to that fact, which, by anticipation, was said to be absurd by other gentlemen as well as Mr. Sidney, and showing that what was said to be absurd by anticipation is proved by the result to be an established and accomplished fact (laughter). Professor Voelcker's knowledge of the language, which he has very modestly stated to be his principal recommendation, was by no means his principal recommendation (Hear, hear). His knowledge of geology, his knowledge of science generally, was extremely valuable (Hear, hear). It is certainly far from the wish of the Council to depreciate or undervalue in any way the

services of Professor Voelcker (Hear, hear). On the contrary those services, which have been so frequently alluded to before, are prominently referred to in the present report in connection with the analyses of feeding stuffs and manures. But it is a fact that Mr. Jenkins wrote the report on Belgian agriculture, and it is a very creditable report to us. No one can read that report without feeling convinced that both Mr. Jenkins and Professor Voelcker saw all that was to be seen of Belgian farming, and that Mr. Jenkins had faithfully described what they saw. Now, looking at the way in which Belgian farming has been publicly alluded to by various persons, considering what inaccurate descriptions have been given of it, and the assumption that what was found in one particular place prevailed all over the country, I must say it is satisfactory to us to have this fresh proof that the agriculture of England will compare favourably with that of other countries (cheers). Gentlemen may hold and express what opinions they please with regard to Belgium; but the facts are there and cannot be disputed (Hear, hear). I should not have alluded, perhaps, to this subject again, had it not been so positively asserted by Mr. Sidney that the principle on which the secretary was elected—[Mr. SIDNEY: "The editor."] I call him the secretary, and if I were also to call him the editor it would be a true description—was wrong. That gentleman was elected on this principle: We advertised for applications. We had no preconceived knowledge of Mr. Jenkins: his testimonials were received and considered in common with all the others that were sent in. A selection was made of a certain number of candidates, I think there were eight or nine at least of those whose testimonials looked best. A large committee of our body, of which I had the honour to be chairman, sat and had interviews with all those gentlemen whose testimonials had been selected as being best; and, after having an interview with each of those gentlemen, the committee were unanimously of opinion that Mr. Jenkins would make the best secretary. Now I would ask Mr. Sidney, or any one else, to point out any way which was more likely to secure the best man among those who applied for the office (Hear, hear). I have defended the course pursued before, and I still think that no better one could have been followed.

Sir J. H. MAXWELL said he was glad to hear Mr. Sidney's remarks, especially as the effect had been to make them happy all round (laughter). Even if Mr. Jenkins were not eligible at the time when he was appointed, he had proved himself so now. He had shown himself to be an eligible secretary, and, as regards his ability as an editor, all acknowledged that the Belgian Report was an admirable one. The popularity of that Society was on the increase, and he believed it would receive a great impetus from the course recently pursued with regard to the adulteration of manures and feeding stuffs. The necessity for such proceedings was manifest. He recollected a case in which a tenant of his (a widow) was offered, by a man with a dog-cart, some guano which he represented as "Gibbs' true Peruvian," and which his factor, who happened to be present, found to consist one-half of feathers (laughter). It was most satisfactory to find that that great Society was now endeavouring to prevent imposition from being practised upon the farmers of Great Britain.

Mr. W. BOTLY said: Some years ago he suggested that the subscriptions of those who had been paid for twenty years should be reduced, and he was glad to learn from the present Report that that hint had not been forgotten. As regarded the *Journal*, every one who had read it for the last two years must have observed a great improvement. It was a more popular and readable periodical than it ever had been before. He was gratified to find that the Council had renewed the education grant; and he thought the improvement of the special education of agriculturists, from the highest to the lowest, would be a proper application of any surplus, after paying due regard to the case of life governors.

Mr. MARTIN wished to allude to what was said in the Report about the adulteration of artificial manures. Having become a member of that Society within the last twelvemonth, he determined to have his manures analysed. His consumption of cake amounting to about £1,500 in the course of the season, it was of course a matter of considerable consequence to him that he should not be deceived. Within the last three months he had sent up three samples of cake to Dr. Voelcker to be analysed; and of these, two were reported upon as pure, and

the third as adulterated with beech and earth-nut. He thought that fact should be known. The person who supplied him with what was adulterated afterwards excused himself by saying that he had two sorts of cake, and that in that case when the men had left off making the best sort and proceeded to manufacture the second quality, the man who was especially engaged in the work forgot to remove the impression (laughter), so that the impression was used alike for both qualities (renewed laughter). Ultimately there was an amicable arrangement, and he having paid £12 a ton for the cake, the manufacturer agreed to return £3 a ton or £15 for five tons.

Mr. MARK PHILIPS wished to call attention to a subject which had recently been one of special interest. Probably there was scarcely any gentleman present who had not suffered more or less during the excessively dry seasons of 1868 and the last summer for want of water (Hear, hear). That seemed to him a most important question for farmers to consider. It was for landlords to provide proper means of obtaining a supply of water, but it was for tenant-farmers to maintain the supply. He had that morning received from the manager of a large estate in Northumberland a letter drawing his attention to the fact that owing to the increase of drainage there had been created in many instances a want of water for farming purposes (Hear, hear), and it was of real importance that farmers should in future look not merely to the discharge of water from the land but also the keeping up the supply required for general farming purposes. With the increased use of steam-engines there was an increased demand for water to supply the engine. In connection with the offering of prizes for the best-cultivated farms he would make it, to use parliamentary language, an "instruction to the committee" that those who inspected the farms should have respect to the water supply found on the farm itself (Hear, hear). He had seen many instances of great loss through farmers being compelled to cart water. Some of the first agriculturists in the kingdom had been obliged to cart water two or three miles daily, employing three or four horses, which were wanted for other purposes on the farm; and he knew a case in which a miller was so jealous of every drop of water that he would not allow a single barrel to be taken from the mill-race until, as he said, he had done with it (laughter). He thought those who were employed in inspecting farms on behalf of that Society should always have respect to the supply of water in dry seasons.

Mr. NEILD said, he should ill-discharge the debt due from Manchester to that society if he did not acknowledge the kind and noble manner in which the Council assisted the Manchester Committee in getting out of debt. He believed that if the Society should ever come to Manchester again they would not stand in need of such help.

The PRESIDENT: Gentlemen, it would be unbecoming in me to put the motion for the adoption of the Report to the meeting without making a few preliminary observations. I feel very much that there are many of my colleagues, right and left of me, who are far more entitled by their knowledge of agriculture to hold the position which I occupy. I have been elected to the position only because of my having served a considerable time on the Council, and being fairly conversant with the Society's business. But having been elected, I must fulfil my duties to the best of my ability; and it is not only a great pleasure to myself, but to all my colleagues to meet the gentlemen who attend the half-yearly and annual meetings of this Society. There is no doubt that the comparison of opinions between the general body of the Society and those who represent them in the Council are very useful in eliciting the views of the agricultural public generally; and I hope it needs no assurance on our part that any remarks which are made in this room will always be properly considered at the meetings of the Council. The Council, indeed, would fail very much in its purpose, if it did not in some way reflect the opinions of the agricultural public outside; and I have no doubt at all, from the various endeavours that we have made to promote investigations, and to excite competition at our agricultural shows, that we have fulfilled in great measure, at any rate, the wishes of the public out-of-doors. I cannot help agreeing in the observations which have fallen from different speakers with regard to the number of members of which the Society is composed. It is not our province, as Mr. Thompson has very properly observed, to seek to draw members to the Society, excepting by the proper fulfilment of our duties; but when I consider

the great advantages which are offered to the agricultural body, I confess that I am somewhat surprised that the Society is not more generally supported than it is (Hear, hear). Having, as I said, been a member of the Council for some years, I am perfectly aware of a growth of confidence out of doors in the proceedings of the Society. At any rate, however much opinions may differ on that point, no one can possibly deny that at our shows there has been a much larger exhibition of agricultural stock and implements, and a greater number of exhibitors. So much so, that we have found it necessary very properly to limit the number of articles exhibited, and certainly in my opinion not before it was required. When, on going through the Oxford Show, I saw on one side a steam launch and on the other a very large greenhouse, which occupied an enormous space, I do not think the Society has done wisely in exhibiting such articles as those (Hear, hear). I omit all mention of smaller items, such as hundreds of sausage-machines, poaching-nets, and a variety of other articles (laughter). Nevertheless, the show at Oxford was, I think, eminently successful; and that a success which lay not in the financial results, but in the larger and more important result of bringing landlords and tenants together, and in having a real good exhibition of implements and stock (Hear, hear). Reference has been made to the farm-prize competition, and upon that subject I intended to have offered a few remarks; but Mr. Thompson has gone so fully into it, that I shall not occupy your time further than to say that in my opinion there is no action which the Society has taken which will more conduce to competition among farmers for excellence in the management of their farms than the desire to acquire the rewards of merit which the Society can confer upon them. Mr. Jenkins, as the secretary of the Society, has been so thoroughly deceptive for three years that I think it would be charity on my part to say nothing about him (a laugh). With this exception that, in the paragraph which refers to him at the close of the Report, I most cordially concur, believing as I do that no person could more efficiently in every way perform the laborious duties which belong to his double position. And as it seems that our Society depends in great measure on the high character and ability of the officers who serve under us, I think it must be as agreeable to the members of the Society present to-day as it is to us to have found how very well, and without any jealousy, the leading officers of the Society, Dr. Voelcker and Mr. Jenkins, appear before you in the remarks which have been made. Sufficient has been said with regard to the admirable article on Belgian farming; and as the owner of land in a dairy district myself, I cannot help expressing my acknowledgments to the Society for the investigations which have been carried on with regard to the development of dairy produce of all sorts. I have on my right a friend who thinks that I, and the Council too, must have gone crazy on the subject of dairy produce, but in my opinion there is no agricultural question of much greater importance than the development of the cheese factory question, which has been forced upon the county in which I reside by the enormous competition that has come so suddenly upon us from the United States of America; and that threatens to swamp all those, and they are a very large class, who produce very moderate cheese here (Hear, hear). With respect to the investigations which have been carried out in the matter of adulterated manures, I may mention one circumstance which appears to me to be conclusive as to the value of the position which the society has taken up in regard to it. Yesterday Dr. Voelcker presented his report to the Chemical Committee of a great many analyses of bone manure which he had made during the past quarter, and all of which he reported to be "pure." In previous reports he had mentioned many cases in which manures were considerably below their professed value, and one or two cases where they were absolutely worthless (Hear, hear). It was my intention to have alluded to the question raised by the last speaker but one (Mr. Mark Philips) the storage of water. The agricultural public, I fear, are not aware that this society has published in its *Journal* a very valuable article on that subject. No one can say, therefore, that we are behind on this question; for it was three or four years ago that that article—an admirable one, written by Mr. Bailey Denton—appeared (Hear, hear). The fact is that we are rather apt, when we get into winter, to forget what has happened in the summer; but if the summer

comes upon us again with such a severe drought as we have had this year, we shall have to sit in sackcloth and ashes. If, then, the agricultural public would read and consider that article of Mr. Bailey Denton, they might obtain many useful hints from it for the economical storage of water (Hear, hear). Before I conclude these observations, I should like to be allowed to express my own great personal regret at the loss by the Society of the valuable services of Mr. Amos. Like many of my colleagues on the Council, I served my term of office as a steward of implements some years back; and if there was one thing which then struck me more than another, it was the zeal and integrity with which Mr. Amos fulfilled his duties. In fact, I may add that the value of our trials has depended entirely upon the confidence which the exhibitors reposed in Mr. Amos's decision. They looked upon him "as Caesar's wife, above suspicion" (cheers). And I can only trust that the Council may be led to make as wise a selection of an engineer to succeed Mr. Amos as they did when they selected him (Hear, hear). When next we meet I hope it will be under more hopeful circumstances with regard to the condition of affairs abroad (Hear, hear). And I do not think that we ought to conclude our meeting to-day without expressing our great regret that countries with which we are on intimate terms of intercourse, both on business and pleasure, should be engaged in so suicidal a contest (cries of "Hear"). I have only to add that I thank you sincerely, gentlemen, for having listened so patiently to these remarks (cheers).

The report was then adopted.

Mr. TORR, in moving a vote of thanks to the auditors, said the real increase in the number of members was 197. It had been found necessary to strike a great many off the list, on account of arrears of subscriptions; but the arrears were now small in point of money value, and the acceptance of £5 as a life subscription in the case of persons who had been members for twenty years would probably add considerably to the funds. They must not expect that all the shows would be as profitable as that at Manchester. The loss of £2,000 at Oxford showed the difference between going to populous and going to non-populous places. The Wolverhampton people were behaving very liberally, having offered on the previous day special prizes amounting to £1,000, and he trusted that when it went into South Wales in the ensuing year the Society would meet with a hearty welcome. What the chairman had said about churning was, in some degree, a matter of joke with himself. He (Mr. Torr) did think that the president and the secretary had done a good deal of churning lately (laughter); and they had that day churned out of the meeting its good opinion very successfully (renewed laughter, and Hear, hear). If the result of the churning should be that English-dairy farmers made a good deal more by cheese producing than they had done, he hoped other farmers would be taught how they might make something by corn (laughter). As regarded Mr. Jenkins, he must say that he was one of the most apt scholars in collecting practical information he had ever met with, while no man could be more free from prejudice or anything that might tend to prevent information from growing serviceable (Hear, hear). Some years ago he (Mr. Torr) went over nearly the whole of Belgium, and the report of Mr. Jenkins and Professor Voelcker on Belgium farming fully agreed with what he then witnessed. They had been told for years that they should go to Belgium to learn farming. Belgium was well cultivated, so far as small tillage went; but the best agricultural labourers of this kingdom lived very much better than the Belgian farmers (Hear, hear); and if the latter lived as well as the former they would have very little produce to send out of Belgium; they would consume it all themselves. The Belgians were a very industrious, very clever, and very happy people; but they lived on very small means, and their farming would not bear comparison with that of England. As regarded steam cultivation, he thought the cheapest way of proceeding was to adopt the hiring principle. He himself hired for his thrashing, his grinding, and his steam culture, and found that system very beneficial. What had been said at that meeting about the storage of water was very important. In Hampshire and Berkshire he had found the greatest providence as respected water, and the cause was that in those counties there was great necessity for providence. There were in those districts many good standing ponds made of marl and the refuse of the gashouse.

Mr. W. BOTLY seconded the motion, which was then put and carried; and the auditors were re-elected.

The CHAIRMAN having inquired whether any member had any suggestion to make to the Council,

Mr. SIDNEY moved the following resolution: "That the Council be requested to take steps for obtaining a complete report on the progress of agriculture in England since the Society was founded in 1839." As to the mode in which the investigation should be conducted, what he would suggest was that the Council should divide England into a certain number of agricultural districts; that there should be a committee to draw up a series of questions upon live stock, upon implements, upon the chemistry of food and manures, and upon every other branch of agriculture; and that those questions should be printed and circulated among all the members of the Society, say in the autumn, so as to allow the whole of the winter for farmers to prepare the answers. It must be recollected that since that Society was founded there had sprung up a large class of intelligent farmers who were well able to write on agricultural topics, and the Council should endeavour to utilise the members. It was in a similar way to that—that is, by sending out a number of questions, that he prepared for publication his work on the pig.

The CHAIRMAN promised that this suggestion should receive the full consideration of the Council.

Mr. RICHARDSON said he hoped the Council would try and obtain some definite answer from Messrs. Bonar and Co. to the questions relating to guano. At present there was no guarantee of quality, nor were samples given, so that no one could tell what he would obtain for his money.

The CHAIRMAN observed that there was a paragraph in the Report relating to that subject.

Mr. RICHARDSON: I suppose Messrs. Bonar have not received any communication on the subject?

The CHAIRMAN: No; but they are in communication with the Peruvian Government.

Sir J. MAXWELL, in conveying a vote of thanks to Lord Vernon, observed that no one could doubt that his lordship had rendered great service to agriculture, not merely in the churning district, but elsewhere (laughter and cheers). He hoped his lordship would allow him to conclude with his own family motto: "*Vernon semper viri*" (cheers).

Col. CHALLONER, in seconding the motion, said the Society had had a great number of presidents, many of whom had been very active; but there were very few who had paid more attention to the duties of the Council than Lord Vernon had done during the last five or six years. They had had that day an illustration of the earnest manner in which his lordship dealt with the different subjects which came before him for consideration; and they could not do otherwise than give him a unanimous and cordial vote of thanks for his conduct in the chair and his zealous and constant attention to the affairs of the Society (cheers).

The resolution having been put by Sir J. Maxwell, and carried by acclamation,

The CHAIRMAN said: Gentlemen, I shall not detain you more than one minute, but I hope you will not think that paucity of words implies that I am not deeply sensible of the honour conferred upon me. I can only say that in the performance of my duties as President it is a great encouragement to me to have been received with so much kindness by you, and to have heard an old member of the Council speaking in such terms of approval of my conduct (cheers).

The meeting then separated.

ANNUAL REPORT OF THE CONSULTING CHEMIST FOR 1870.

The publication of the periodical reports of the Chemical Committee has awakened the agricultural community to the painful fact, that oilcakes, as well as artificial manures, are frequently sold in an adulterated condition, or at prices much exceeding their real commercial value. The analytical work in 1870 has increased in an unprecedented degree, no doubt in consequence of the issue of these reports. Before 1868 the average number of analyses for members was about 330, for

1867 it amounted to 341. A considerable increase took place in 1868, when 432 analyses were made for members of the Society, and again in 1869, when 465 analyses were sent out from the laboratory. Notwithstanding this steady increase in the three preceding years, as many as 580 analyses have been referred to me during the past year, being an unprecedented increase of 115 analyses over the number sent out in 1869. The appended summary shows that a large number of guanos and artificial manures of the class of superphosphates were examined in 1870, as well as an unusually large number of oilcakes. Comparatively few of the guanos were adulterated, but many were found damaged by sea-water and of inferior quality. On an average the proportion of ammonia yielded by the guano analysed in 1870 little exceeded 14 per cent., and in several cases the proportion was less than 13 per cent. It is to be hoped that the supply of guano from the Guanape Islands will turn out to be of a superior quality than has been anticipated. I have recently made a number of analyses of Guanape guano for the Peruvian Government, and am glad to be able to report that nearly all the samples were much drier than those analysed in the preceding year. Although not equal in quantity to the best Chincha Island guano of former years, the Guanape Island guanos recently analysed by me are about equal to the average quality of last year's importations of Peruvian guano. It remains to be seen whether Guanape guano, which no doubt will be sold as Peruvian, is uniform in character. By far the greater number of artificial manures—such as special wheat, oat, barley, potato, and grass manures—are mixtures of dissolved bones or superphosphates with ammoniacal salts, common salts, dried blood, nitrate of soda, and other nitrogenous fertilising materials. These manures are, therefore, grouped together with superphosphates. As many as 152 samples of superphosphates and similar manures were analysed by me in 1870. Large sums of money are annually expended in the purchase of phosphatic manures, and as the quality of these manures varies exceedingly, and the actual price at which they are sold does not always correspond with the intrinsic value of the manure, it is highly desirable that purchasers of superphosphate or dissolved bones should buy these manures of a quality guaranteed by analysis. The following analyses of two superphosphates offered for sale in the same place, one at £6 3s. (cash) per ton, and the other at £4 3s., afford a good illustration of the fact that a considerable saving may often be effected if the composition of rival superphosphates is determined previous to the purchase:

Composition of Two Superphosphates.

	No. 1. Sold at £6 3s. nett cash.	No. 2. Sold at £4 3s. nett cash.
Moisture	15.38	18.92
Water of combination and }	9.45	6.21
*Organic matter		
Biphosphate of lime (mono-basic phosphate of lime)	13.04	15.66
Equal to bone phosphate (tri-basic phosphate of lime) rendered soluble by acid	(20.42)	(24.52)
Insoluble phosphates	13.25	5.14
Sulphate of lime	43.10	47.37
Alkaline salts and magnesia	1.03	.86
Insoluble siliceous matter	4.75	5.84
	100.00	100.00
*Containing nitrogen ... ..	.33	.08
Equal to ammonia ... ..	.40	.09

These two superphosphates have nearly the same commercial value. No. 1 contains a little bone; No. 2 is a purely mineral superphosphate. I should feel disposed to give from 5s. to 7s. 6d. more per ton for No. 1 than for No. 2. The sample marked No. 1 is rather dear at £6 3s., nett cash, and No. 2 cheap at £4 3s., nett cash. Of the 32 samples of bone dust not one was adulterated, which clearly shows that the unsparing publication of the names and addresses of dealers in adulterated bone dust has had an excellent

detering effect. With respect to feeding cakes, I regret to have to report that linseed cake is still sold as genuine and pure, which is largely mixed with rice meal, oat dust, pollard, mill-sweepings, earth-nut cake, cotton cake, and sometimes with more objectionable materials. Linseed cake, when mixed with rice dust or pollard, is generally comparatively poor in flesh-forming matters, as will be seen by the following analysis of a sample of cake which was found adulterated with oat dust :

Composition of a Sample of Linseed Cake, adulterated with Oat dust and similar starchy mill refuse.

Moisture ...	14.72
Oil ...	12.0
*Albuminous compounds (flesh-forming matters) ...	23.25
Mucilage, sugar, and digestible fibre ...	35.57
Woody fibre (cellulose) ...	8.24
Mineral matter (ash) ...	6.18
	<hr/>
	100.00
	<hr/>
*Containing nitrogen ...	3.78

It is, however, quite possible to supplement the deficiency of flesh-forming matters in a cake adulterated with starchy mill-refuse by incorporating at the same time with the cake a meal richer in nitrogen than pure linseed cake. Decorticated nut cake or decorticated-cotton cake, being very rich in nitrogen, is sometimes used for that purpose, and the blending of the starchy matters poor in nitrogen with others abounding in that element is so skilfully performed by some notorious cake-crushers, that a cake is produced having almost precisely the same proximate composition as pure linseed cake. It is well to bear this in mind, for the fact that an oilcake on analysis shows the same per-centage of oil, flesh-forming matters, woody fibre, &c., as pure linseed cake, is no proof that it may not be, after all, a mixed cake, and be composed of materials inferior in taste, digestibility, and condition to pure linseed cake. Excellent decorticated-cotton cake is sent over to England from America at the present time. When broken up fine, or, better still, when reduced to a coarse powder, decorticated-cotton cake is a most valuable feeding cake for store cattle, when these have to be kept chiefly upon straw chaff and a few roots. A mixture of finely-ground cotton cake or meal, linseed cake, and Indian corn, or palm-nut meal in equal proportions is also well adapted for fattening stock, and for milk cows, good decorticated-cotton cake is preferred, I believe justly to the best linseed cake. Green German rape, or Rubsen cake continues to be scarce, and ordinary rape cake is often so full of mustard that it endangers the life of the animals to which it is freely given. Common rape cake should therefore never be given to stock without having been previously examined for mustard. Most of the samples of common rape cake sent for examination I found utterly unfit for feeding purposes, and I would especially warn the members of the Society not to buy a variety of rape cake which has recently found its way into commerce under the name of yellow rape cake. Several samples of this species of cake I found so pungent that, in my opinion, less than half a cake would in all probability kill an ox. Satisfactory reports of field experiments on root crops, on potatoes, and on grass land, have been received, and will form the subject of future contributions to the *Journal*. I may observe, however, in this place, that potash-salts have again proved to be very useful, in 1870, for potatoes and mangels as well as for clover seeds, and not only when used upon light sandy soils, but likewise when applied in conjunction with superphosphate to poor clay land. The following are the papers contributed by me to the pages of the February and August numbers of the *Journal* for 1870 :

1. Field experiments on mangels.
2. On beet-root pulp.
3. On a peculiar kind of Swedish whey-cheese, and on Norwegian goat's-milk cheese.
4. Field experiments on potatoes.
5. On the composition and practical value of several samples of native guano prepared by the "A.B.C." process of the Native Guano Company.

Analyses made for the Members of the Royal Agricultural Society, December, 1869, to December, 1870.

Guanos (natural) ...	64
Artificial guanos ...	13
Superphosphates, dissolved bones, wheat manures, and similar artificial manures ...	152
Bone dust ...	32
Refuse manure ...	27
Nitrate of soda, sulphate of ammonia, and potash salts ...	31
Marls, limestones, and other minerals ...	20
Soils ...	14
Oilcakes ...	154
Feeding meals ...	18
Vegetable productions ...	13
Disinfectants ...	2
Waters ...	30
Sewage ...	3
Cider ...	1
Treacle ...	3
Examination for poisons ...	3
	<hr/>
Total ...	580
(Signed) AUGUSTUS VOELCKER, F.R.S.	

THE DOUBLE PLOUGH TRIALS AT ALFORD.

JUDGES' REPORT.

TO THE COMMITTEE OF THE ALFORD AGRICULTURAL SOCIETY.—Gentlemen,—Your Judges feel much the responsibility of having to report on the double-furrow ploughs, tried at the Alford meeting, held on Friday, the 12th instant, in a field of Mr. W. O. Parr's, of Well. The day was a most unfortunate one as regards weather, snow and rain falling, more or less, the greater part of it; this, with the aid of a slight frost during the previous night, brought the surface of the trial-field into a state more easily imagined than described. The field was a strong loam on a clay subsoil: in the face of this the ploughs went through their severe trial, some of them making excellent work. Everything considered, we are of opinion the trials were most satisfactory. There were eight double-furrow ploughs put to work in your trial field, some drawing three horses, others only two. In practice we consider three horses ought always to be used. That double-furrow ploughs will quickly come into use on lands not exceedingly strong may with safety be predicted, as a plough of this description, with three horses and one man, will do quite as much work, and as well, as two single ploughs working each two horses and one man; thus producing a saving to the farmer of one horse and one man. We are also of opinion that, although it is quite practicable to set a ridge and take up a furrow with a double plough, it would be better if these two operations were done with a single plough. In a double-furrow plough there are several points to be taken into account, amongst them strength, draught, simplicity of construction, and ease in management, and though last, not least, the handiness in turning at the headlands. Some of the ploughs at the trial met all these requirements—others did not; and it was proved beyond all doubt that only the strong, rigid, and well-made ploughs can go through their work satisfactorily. It is much better to have an excess of strength and weight than to have an implement not strong enough for its work, which, on meeting a little extra resistance, gives either one way or the other, causing the plough to run out of work altogether, or bury itself up to the beam. This was shown to demonstration, both in your trial field and at the Peterborough meeting, at Thorney, a short time since. As regards the work by some of the double ploughs at your meeting, it was indeed excellent. The work by Howards' plough was very good, both in appearance and fact; and that by Ransomes' and Co. but little inferior. Had we not been by our instructions directed firstly to take the draught of the plough into consideration, the position of these two great plough manufacturers might have been transposed. The draught of Messrs. Ransomes' plough by the dynamometer of the Royal Society, brought by Mr. Amos, C.E., for the purpose of these trials, was very light for a double

plough, being only 4 cwts. 2 qrs. 7 lbs. The draught of Messrs. Howards' was also light in comparison to some of the others, being 5 cwts. 1 qr. 14 lbs. The furrow in each case being fully 5 inches deep by 9 inches wide—that is, 18 inches for the two furrows, and both the ploughs were on a very even sole. Here perhaps, for the sake of comparison, it would not be amiss to state the draught of a single-furrow plough, one by Messrs. Hornsby, which was tried on your ground by the dynamometer, it was 4 cwts. 2 qrs. 14 lbs., a trifle in excess of Messrs. Ransomes' draught of their double-furrow plough; but it must be stated that the depth of furrow in the case of the single plough was 5½ inches as against 5 inches in the double. This slight difference in draught may seem difficult to account for, but we think there can be but little doubt it is, in a great measure, owing to the system of suspension now employed by many of the double-plough makers, instead of the old sleading one. Had time allowed, it was our intention to have tested the difference between the two systems, and much we regret we could not do so. The double plough brought into the trial-field by Messrs. Ransome was an exceedingly strong and well-made implement, and worked most satisfactory. It is easily thrown in and out of work at the headlands by raising and lowering a central wheel with a lever, and this wheel also turns well and easily on the headlands. To Messrs. Ransomes' double-furrow plough we awarded the first prize. The Messrs. Howards' double-furrow plough, at the Alford meeting, was a most excellent implement; well-made in all its parts; the arrangements good, showing great strength and simplicity of construction, and readily put into and out of work. The steering by both the front wheels with the same lever makes the turning of the plough on the headlands a most easy process. The suspension is well balanced, and for the heavier kind of land this will prove a valuable kind of plough. The above two ploughs (Howards' and Ransomes') were easily and quickly adjusted to the desired depth and width of furrow, viz., 5 inches and 9 inches. To Messrs. Howards' plough we gave the second prize. Fowler's plough, which was exhibited by Mr. Harwood Mackinder, of Langton Grange, and who has regularly worked it on one of his farms for some time, is a thoroughly good and useful plough. At the trial it did some very good work—not equal in appearance to that of the two previously mentioned, but quite worthy of our notice, the furrows being well turned and packed, leaving the land in a very good form to produce a good seed-bed with but little labour. On the whole, this is a strong good double-furrow plough, easy to manage, and with Perkins' patent steerage (as was the case with the Fowler's plough exhibited at the Peterborough meeting) turning most readily and easily at the headland. Perkins' patent steerage was not attached to the Fowler's plough at Alford. The draught of Fowler's plough was 5 cwts. 2 qrs. 24 lbs. Cooke, of Lincoln, had a double-furrow plough on the ground; it did good-looking work to a casual observer,

the furrows being well cut and sharp; but they were not well turned over, the land consequently was left too hollow, and so would require more labour to produce that desirable object—a good seed-bed. This plough, by Mr. Amos' Table (to which we beg to refer), shows the lightest draught of any of the double ploughs tried; but it must be remembered that the depth of furrow was only 4½ inches, instead of 5 inches, the depth worked at by all the other ploughs. Had the weather and time allowed we should have given this plough another trial on the dynamometer, for it was thoroughly worthy of it, and received with Fowler's a high commendation from us. The Messrs. Ball, of Rothwell, near Kettering, exhibited a plough which did nice-looking and good work, cutting out the furrows with a sharp angle, and laying them well. The dynamometer, however, told its tale—making the draught 6 cwt. 1 qr. 14 lbs. The remaining three ploughs do not require special notice from us, we will therefore simply refer to the Tables as to draught given by Mr. Amos.

DRAUGHT OF DOUBLE-FURROW PLOUGHS.

Exhibitors.	Draught in Cwt. qr. lbs.			Remarks.
Rinder	6	3	7	
Fowler	5	2	24	
Howard.	5	1	14	
Ashley	8	1	14	
Ball	6	1	14	
Ransome ...	4	2	7	
Cook.	4	0	0	Only 4½, instead of 5 inches, the depth it should have been.
Hodson.	5	1	7	
Average...	5	3	7½	

We fear you will think our report a long one; but we cannot conclude it without congratulating the Committee of the Alford Agricultural Society on the success of their meeting, as regards double-furrow ploughs and ploughing. Not only does the immediate district but the country generally owe a debt of gratitude to these gentlemen for the trouble they have taken and the energy they have displayed in getting up and carrying out this trial; and they deserve special thanks also, for having procured the valuable assistance of C. E. Amos, Esq., C.E., without whose help the interesting and very necessary trials on the dynamometer could not have been carried out.

Thanking the Stewards for their kind attention to ourselves,
We are, Gentlemen, your obedient servants,
H. V. GRANTHAM,
JOHN HELMSLEY,
JAMES MARTIN.

November 30th, 1870.

WIDE DRILLING.

BY CUTHBERT W. JOHNSON, F.R.S.

The width at which seed corn should be drilled has long been a moot point with the agriculturist. When Jethro Tull so earnestly advocated the use of his drill, the width of the rows did not escape his attention. He well perceived that on many soils, the drill and the horse-hoe might both be profitably employed. To this end he used a much smaller amount of seed than was usual in his time, and he drilled at such widths as allowed of the free use of the horse-hoe. Tull was born, as it has been well remarked, before his time. He fell, however, into the error of many a man who had not his genius—his conclusions were often far too sweeping—as when he contended that by drilling the corn at wide intervals, good crops could be raised on any soil, with less seed, and without fallows, or dung. The many correct observations

he made, were however, very remarkable; he had a far greater knowledge of the effect of the atmosphere upon vegetation than was possessed by his contemporaries, who were wont to denounce his modes of cultivation, and ridicule his reasonings, with more acrimony than sense. For instance, in the third chapter of his Horse-hoeing Husbandry, he refers to the existence in the air of a substance which he regarded as “of the nature of aquafortis.” It is nearly a century and a-half since Jethro Tull made this remarkable observation, long before nitric acid was shown to exist in our atmosphere.

From the days of Tull (he died in 1740) the use of the drill made but slow progress until the beginning of the present century. Arthur Young was long opposed to it, but Lord Leicester rendered it popular by his successful use

of it at Holkham. I find, however, but slight attempts to employ wide intervals in drilling corn until the time of the Lois Weedon experiments, when the Rev. S. Smith on his heavy wheat soils adopted the system of growing wheat on the same land every year, by leaving a space equal to rather more than three feet between every three rows of drilled wheat, and so fallowing and cleansing that unoccupied space as long as the height of the growing corn would allow.

By this process only half the land was sown, but then, the soil was kept clean, and the atmosphere had more ready access, not only to the plants, but by stirring the land in the intervals to their roots also, and this last is, I take it, an advantage for certain soils and cereals, not so generally understood as is desirable.

Now, the cost and profit of the system thus employed at Lois Weedon is of primary importance, and this I will state in the words of the author of the "Word in Season," when he said: "I sum up, then, the average annual outlay for the wheat crops from first to last; always keeping in mind the digging process I have described—how it began with one shallow spit the two first years, increasing by degrees to two good spits of pulverised soil, two or three inches only of solid clay being added, and for four years not even that.

Digging and cleaning the moiety of each acre	...	£1	14	0
Horse-hoeing do. three times, 6s.; ploughing, 4s.	...	0	10	0
Hoeing and hand-weeding...	...	0	5	0
Rolling with crusher at seed time and at spring	1s.	0	3	0
Two pecks of seed 2s. 6d., dibbling 5s.	...	0	7	6
Bird keeping	...	0	4	0
Earthing up wheat...	...	0	3	0
Reaping, &c., to thrashing and marketing...	...	1	13	0
Rent £2, rates and taxes 4s. 3d.	...	2	4	3
Total outlay	...	£7	3	9

The produce and profit from Sherriff's red wheat on these half acres, Mr. Smith thus gave:

Thirty-four bushels of wheat at 5s.	...	£8	10	0
One and a-half tons of straw at 40s.	...	3	0	0
		£11	10	0
Deduct outlay	...	7	3	9
Net profit	...	£4	6	3

The experiments of Lois Weedon were repeated and elaborately examined at Rothamsted by Mr. J. B. Lawes and Dr. Gilbert in 1851, and the subsequent years, with very indifferent success (*Jour. Roy. Ag. Soc.*, vol. xvii., p. 582). These experiments were reviewed by Mr. Smith, and several sources of error pointed out (*ibid.*, vol. xviii., p. 30).

It was in 1865 that Mr. J. A. Clarke, of Long Sutton, reported the result of his trials upon the Lois Weedon system. The results which he obtained convinced him (*ibid.*, N.S., vol. i., p. 79) that "it is possible that hand-trenching by the spade to a depth of 18 or 20 inches would enable my field to produce good wheat crops in perpetuity; but as my horse-tillage extended only to a depth of 9 or 10 inches, and effected but a rough pulverization compared with that of the fork, I did not expect a long series of crops. My experiment simply proves that *several paying wheat crops can be grown, one after the other, without any manure, provided the land be in fair wheat-growing order at the beginning.*" After detailing the mode he adopted in the cultivation of wheat on the same land for a series of years, Mr. Clarke thus summed up the results of his experiments (*ibid.*, p. 85): "And now for the practical recommendation arising

out of this experience. Not necessarily to grow four or more wheat crops in yearly succession on the same land; for in my experiment you see a principle tried to an extremity, just for the sake of proving the productive power of intercultural tillage. Not to introduce a rotation like mine as a pattern to be followed on a large scale. Suppose we take but a couple of wheat crops together in a three-field course—that is, two years wheat, and the third year spring corn, green crops, or what you please, the straw being returned to the land as manure in this third year. On my field the produce on this system (as I have shown from what actually was raised on the comparatively exhausted ground) would be, with every degree of probability, 36 to 40 bushels per acre in an average season. Take a low market—say, at 36s. per qr. Then 36 bushels per acre give a return of £8 2s.; and deducting the low total cost of the crop, £5 10s., we have a balance of £2 12s. per acre for profit and interest of capital. A yield of 40 bushels an acre at the same price would give a surplus of £3 10s. per acre over the total expenditure. If you reckon upon the more reasonable market-price of 40s. per quarter, the yield of 36 bushels leaves a profit of £3 10s. per acre, and the yield of 40 bushels leaves a profit of £4 10s. per acre. On 300 acres arable we should have 200 acres under wheat, producing a nett annual income of £520, £700, or £900, according to whichever yield and market we met with. No manure being wanted by either year's wheat crop, all the wheat-straw, enriched if you please with cake and corn feeding, would go to manure the remaining 100 acres of crops—spring corn, green food, and roots; and if it is really more profitable to grow food for live stock than to sow large breadths of bread-corn under the common mode of management, there can be no doubt that this 100-acre portion (with 200 acres of straw manuring it) would account for itself without any heavy deficit of expenditure over proceeds. But this manuring is not all that would be in favour of the 100 acres of cropping. Not only is the second year's wheat crop produced at a total outlay of £5 10s. per acre, but *the land is simultaneously fallowed and cleaned in readiness for the third year's mixed cropping.* The stripe-wheat relieves the green crop of its old burdensome duty of cleaning the land for succeeding crops, and no part of the 100 acres will have to undergo the usual long processes of winter and spring fallowing. Hence the expenses on such a crop of roots would be far less heavy than in the common way."

It was in consequence of the report of Mr. Clarke's experiments, that in 1868 a series of very valuable trials on the width of the drills in corn-seeding were instituted by the Chamber of Agriculture at Cirencester. The results of these have recently been detailed by Professor Wrightson (*ibid.*, vol. vi., N. S., p. 299). The love of truth which marks the Professor's introduction to his Essay will not escape the reader's notice. If his caution in arriving at a conclusion had been more frequently regarded, many an agricultural self-deception would have been avoided. As he well remarks at the opening of his very valuable report: In conducting agricultural experiments, the investigator is beset with many difficulties which tend to render the results indistinct, and to detract from the value of his work. Among these difficulties may be named, inequalities in the condition, or the natural fertility of the soil; inequalities in the vigour of the plant; peculiarities of the season; and attacks of insects. A number of plots may be measured off, and treated with care, but as the crop advances towards maturity, one or other of the above named sources of error appears, causing differences, not attributable to methods of cultivation or special dressings of manure. Hence the

importance of repetition and control, for although a single series of experiments may yield results of comparatively small value, several series designed with a view to confirm or control each other will probably elicit evidence of almost irresistible strength. The Cirencester Chamber of Agriculture in undertaking the work of conducting field experiments kept the truth steadily in view, and it will be observed that the variety of methods of cultivation was restricted. The treatment decided upon was repeated sufficiently often to justify some useful conclusions being drawn, but in spite of the precautions taken contradictory results were occasionally obtained. Such disagreements are not un instructive. They teach the importance of each farmer conducting experiments upon his own land in order to find its peculiarities. When a general concurrence of evidence is obtained an important point is gained; when dissimilar answers are the result, some special reason for the want of conformity must be looked for in the soil and surrounding conditions.

It was in the autumn of 1868, that the Cirencester chamber decided to carry out a series of wheat experiments. In planning these it was resolved that the trials should be of a simple character. That the same series should be simultaneously carried on upon as many farms as possible. That duplicate plots should in every case be used. The Cirencester trials consisted of two series, one upon different methods of manuring wheat, and the other upon different modes of drilling and tillage. It is to this last series that I propose on this occasion to confine my attention.

The usual width of drilling wheat being about 9 inches, it was resolved—(1) to omit every alternate row, leaving a space of 18 inches between the rows (2); to omit two drills, and leave two, making a space of 27 inches between double rows 9 inches apart; (3) to omit two drills and leave two, forking the interspaces during the summer; (4) to attempt the cultivation of carrots or potatoes between wheat-rows arranged as just described; (5) to try the effect of firmly pressing land with the foot in winter and spring. In carrying out these experiments the wheat was in some cases sown with the drill in the usual manner, and the surplus rows were obliterated by the hand-hoe soon after the blades of corn appeared above ground. In other cases the drill was set so as to deposit the seed at the required width. The objects of these experiments were as follows: To show (1) how far a free admission of air and light influences the growth of the wheat-plant; (2) how far interculture is beneficial or the reverse; (3) the effect of thin seeding. Similar experiments upon barley were also undertaken with interesting results. The following is a list of the plots required for carrying out these trials:

- 2 plots in which 2 rows were alternately omitted and left.
- 2 „ in which 2 rows were alternately omitted and left, the interspaces being forked twice through the summer.
- 2 „ the same as the last, but with carrots or potatoes planted in the interspaces.
- 2 „ firmly pressed with the foot.
- 2 „ untouched for comparison.

Some encouraging results, obtained by Mr. J. A. Clarke from trials upon wide drilling (to which I have already referred) in a field cultivated upon modified Tullian principles, were published in vol. i., N. S., of the Royal Agricultural Society's *Journal*, and were the immediate cause of a series of wide-drilled plots upon the College Experimental Farm in 1865. A piece of winter-drilled wheat was selected, and alternate

rows were cut out with the hoe, leaving the wheat rows 18 inches apart. In like manner three rows were removed, and three left, forming triple rows with 10-inch interspaces. Of these plots some were forked, and others merely hand-hoed. As the experiment was only commenced on April 18th, the result, as might have been expected, was not favourable to wide intervals. It was, however, worthy of notice that although half the wheat was removed, the produce from the wide-spaced plots was, in spite of the unfavourable conditions of the experiment, equal to 27 bushels per acre, while the ordinary untouched wheat yielded 32 bushels per acre.

These experiments were repeated on a more extended scale in 1868, a season in which wide-drilling and forking could hardly be thought advantageous. Both wheat and barley were subjected to the trial, care being taken that the superfluous rows should be removed before they could interfere with the future prospects of the remaining rows. Some of the wide-spaced plots were twice forked during the summer, while others were kept free from weeds by means of the hand-hoe. The results are embodied in the following table:

TABLE I.—RESULTS OF WHEAT EXPERIMENTS, 1868.

	Bushels per Acre.	Weight per Bushel. lbs.
Alternate rows obliterated, spaces forked	29.6	65
Alternate rows obliterated, re- maining rows singled into tufts or bunches	22.8	62.5
Ordinary wheat for comparison	30.8	64.75
Three rows left and three hoed out, spaces forked	25.2	64
Alternate rows obliterated, spaces not forked	28.4	64
Alternate rows obliterated, re- maining rows "tufted" as in 2	24.4	64
Three rows left and three ob- literated, not forked	26.8	64.75
Alternate rows obliterated, spaces not forked	28.4	64.75
Three rows left and three hoed out, spaces forked	20.4	65
Ordinary wheat	29.2	65.5
Three rows left and three hoed out, spaces forked	23.2	65
Alternate rows obliterated, spaces forked	26	65

- Inspection of this table shows:
- 1st. That in no case was the crop so good as in the case of the wheat cultivated in the usual way.
 - 2nd. Plots in which the alternate wheat rows were obliterated were so nearly equal to those of ordinary wheat that, since half the seed might have been saved by sowing at once with a wide drill, the advantage is pretty equal in both methods.
 - 3rd. The forked wheat was generally worse than the corresponding unforked, a result borne out by the experiments of 1865.
 - 4th. Since 25 and 26 bushels per acre were obtained from *half the land* under crop in the cases of Plots 4 and 7, the question whether the interspaces would have borne as large a crop of wheat the succeeding year, as at Lois Weedon, is worthy of attention.

The experiments made upon barley during the same droughty season point to a clear advantage from wide-drilling and interculture, as will be seen upon inspecting Table II.

TABLE II.—BARLEY EXPERIMENTS ON THE ROYAL AGRICULTURAL COLLEGE EXPERIMENTAL FARM, 1868.

PLOTS (1.40 acre each).	Measure calculated at 58lbs. per Bushel.	Increase in Bushels per Acre over Average Unmanured. Ordinary.
	Bushels.	Bushels.
Ordinary	30.2	—
Alternate rows obliterated, May 3rd	38.0	6.4
Ordinary	35.5	—
Alternate rows obliterated, May 3rd	43.4	11.8
Alternate rows obliterated, spaces forked, May 3rd	40.7	9.1
Ordinary	29.0	—
Alternate rows obliterated, spaces forked, May 3rd	44.6	13.6
Average of three ordinary plots	31.6	—
Average results of two plots, alternate rows obliterated ...	40.7	9.7
Average result of two plots, alternate rows obliterated, spaces forked	42.7	11.1

The experiments upon wheat were repeated in 1869, at the farm of the College at Cirencester, and by Mr. Smith, of Bibury, the results of which will be found in the following tables :

TABLE IV.—TILLAGE AND WIDE DRILLING EXPERIMENTS ON WHEAT, 1869—ROYAL AGRICULTURAL COLLEGE EXPERIMENTAL FARM.

PLOTS (1.40 acre each).	GRAIN PER ACRE.	
	Weight per acre.	Increase or decrease.
	lbs.	lbs.
Two rows removed and two left	1440	— 80
Three rows removed and three left	1460	— 60
Firmly pressed with the foot ...	1040	— 470
One row removed and one left forked	1780	+ 260
Two rows removed and two left forked	1610	+ 90
Nothing	1360	— 160
" " " " " " " " " "	1330	— 190
Two drills 9 inches apart, alternated with 27-inch spaces (potatoes between) ...	1650	+ 130
Two drills omitted and two left, spaces forked twice	1060	— 460
Two drills omitted and two left, land pressed	1640	1520= average
Two drills taken and two left, and land pressed	1560	
Untouched plot	1360	

TABLE V.—WIDE DRILLING EXPERIMENTS ON WHEAT, 1869—BY MR. SMITH, OF BIBURY.

PLOTS (1.20 acre each).	Grain per acre.	Straw per acre.
	lbs.	lbs.
Two drills 9 inches apart, alternated with 27-inch spaces (potatoes between) ...	3200	4260
Two drills omitted and two left, spaces forked twice	3020	4140
Two drills omitted and two left, land pressed	3080	4340
Two drills taken and two left, and land pressed	3280	4380
Untouched plot	2760	3500

The results obtained by Mr. W. Smith, of Bibury, were so satisfactory that he has sown a larger area of wheat upon the same principle this season. Here the wheat was at once drilled the required width, thus actually

saving 1 bushel of seed per acre. The land was naturally good, and may be described as a quick free barley soil, dark in colour, and in excellent condition. The previous treatment of vetches fed, followed by turnips fed, was a good preparation for wheat. Table V. at once shows that a considerable, and in some cases remarkable, increase in yield was obtained by adopting the proposed plan of cultivation. A party of farming friends, who visited the experimental field, were greatly pleased with the wide-drilled portions, and considered that they would probably yield *as well as the plots manured with nitrate of soda*. The heads were exceedingly large and well filled, and the yield of both grain and straw fully attested the truth of these observations. In one case, where alternately two rows were omitted and two left, the interspaces *being firmly pressed*, there was an increase of 8½ bushels of grain and 880 lbs. of straw per acre! In the second plot, where the interspaces were planted with potatoes (and consequently, to some extent, worked between the rows) there was an increase of 440 lbs. of grain (above 7 bushels) and 760 lbs. of straw. In a third case, an increase of 320 lbs., or upwards of 5 bushels, of grain was obtained. And, lastly, where the spaces were twice forked, there was an increase of 260 lbs., or 4 bushels per acre. Such results indicate the importance of carrying out simultaneous experiments upon many farms if we desire to arrive at truth; they also teach the necessity of each farmer trying experiments upon his own land.

From the general results obtained from these valuable researches (and there are others reported by Mr. Wrightson) we may be well encouraged to repeat and vary these trials. There are many facts which lead us to the conclusion that we have yet much to learn in the drilling of our seed corn. The superior strength and finer ears of the plants growing on the verge of our corn fields, and those sown amongst vetches, or those accidentally dropped in places where they have abundance of room to vegetate—these, and other facts of a similar kind, all seem to give the same evidence as that afforded in the Cirencester experiments, of which we learn (*ibid*, p. 321) “where wheat is allowed abundance of room, the growing plant assumes a dark-green vigorous appearance very similar to that of wheat dressed with some highly nitrogenous manure; and this effect is not confined to any particular season, but may be seen wherever thin sown can be contrasted with thicker sown wheat.”

THE CENTRAL AND LOCAL CHAMBERS OF AGRICULTURE.

REFUSAL TO PAY ANY MORE SUBSCRIPTIONS.

At the General Meeting of the North of England Chamber of Agriculture, in reply to a member, Mr. ARKLE stated that the subscription to the Central Chamber of Agriculture had been paid for this year.

Mr. THOMAS LAWSON said they should withdraw the subscription if the Central Chamber continued to say they had power to represent the opinion of the Chamber without consulting the North of England Chamber. All steps for continuing their connection with the Central Chamber should be adjourned until they heard the result of the meeting in London.

Mr. ARMSTRONG, the Secretary, said that a letter had been received from the Central Chamber, requesting the Chamber to consider a resolution which had been passed at a meeting of the General Council, with respect to memorialising magistrates at the January Sessions on the subject of the rates levied by them; and also to present a petition on the subject to the House of Commons.

Mr. LAWSON said there had been no opportunity of giving notice to the members that such a matter would come before them, and it would be irregular for the Chamber to attend to it now.

The SECRETARY said the Sessions would be held before the next meeting of the Chamber.

Mr. LAWSON said he would propose that the consideration of the matter be adjourned until they had before them the resolutions passed at the meeting in London in relation to the connection between the provincial chambers and the Central Chamber.

Mr. CHARLTON, the Chairman, thought they were quite in

the dark as to what the Central Chamber would do in the matter.

Mr. LAWSON said the subscription should not be paid to the Central Chamber.

The SECRETARY said that that would come before the meeting of the Council in January.

The communication from the Central Chamber was laid upon the table.

THE CENTRAL AND THE LOCAL CHAMBERS OF AGRICULTURE.

It has for some time past been sufficiently evident that, while the local Chambers of Agriculture have been developing into really useful institutions, there has been as manifest a lack of administrative ability at head-quarters. We have never hesitated to draw the strongest possible line between the actual service of the country agent and the mere pretension of the central power. In fact, any decisive step ever taken in the provinces has been pretty generally frittered away in vapid discussions over round-about resolutions when once the question has been carried to London. Rarely, indeed, has any representative man had anything satisfactory to report when he reached home again. And the world at length is coming to see this, although for a season we were subjected to the most absurd abuse, because we declined to commit ourselves to the proceedings of a clearly incapable body. At the general meeting in the Smithfield show-week the chief business of the Central Chamber was a discussion as to how its own constitution might be amended, or in other words how it might be rendered a more efficient instrument. It is not our purpose here to dwell over this conference, because so far nothing has come of it, or, as one of the general members said on leaving the room, "Well, we have done nothing but talk." It may be interesting, however, if only on behalf of these very tributaries, to see what the local Chambers think of the centre-piece.

At the close of the meeting in Salisbury-square, Colonel Tomline terminated his duties as the Chairman for 1870, and early in the following week he was present at a dinner of the Suffolk Chamber at Ipswich, where a feeling anything but favourable to the Central Chamber was very noticeable. Lord Henniker "had heard many members of the Suffolk Chamber say they did not get much good out of the Central Chamber, and that their Chamber should not subscribe to it." Mr. W. Kersey "had been astonished at the number of amendments made upon amendments at the Central Chamber, and he was glad it was proposed to reduce the Committee of twenty-four to twelve." Mr. Herman Biddell said "what was wanted was a body that would speak with power and authority for the Agricultural interest;" and Mr. Corrance, M.P., seemed to fear that under any other circumstances "the talk would be interminable and the business nothing;" although this, in point of fact, is just what is complained of at present. Some time back a delegate from a Devonshire Chamber told his friends in the West how there was a member of Parliament at the Central Chamber who was always jumping up again "like a Jack-in-the-box" whenever anyone else sat down. Judiciously enough the President was not content with what Mr. Kersey, Mr. Biddell, Mr. Corrance, or Mr. Hawkins said, but "he would like to hear Colonel Tomline's opinion, he having greater knowledge of the Central Chamber;" and in answer to this invitation, Colonel Tomline did say he "was glad to see the impatience shown by some delegates that the Central Chamber had done little or nothing." Further, that the "Central

Chamber had practically no power. It was in the local Chambers, where he hoped it would always remain, and in the House of Commons;" while the gallant gentleman repeated with marked emphasis his opinion that "the Central Chamber had done nothing." It is true that he qualified this by adding that the Central Chamber had organized the establishment of the local Chambers, which it was not worthy to control. "Surely one small room in Salisbury Square was not so fit a place for those Chambers to exert their energies.—He had felt for some time that the Central Chamber was, after all, a sort of Convocation, with the semblance of power, without its reality," and so forth.

This is tolerably plain speaking, coming as it does with all authority from a Chairman of the very Society which he condemns; but this is not all. Mr. Lawson, of the North of England Chamber, has recently addressed two or three strong letters to the secretary of the Central Chamber on this very subject, in one of which he says: "You and I are not on one platform as to whether the Central Chamber does on all or any question represent the opinions of provincial Chambers. We will probably be as far asunder as to why no member from here will attend the Central meeting on the 7th of December. When the North of England Chamber delegates one of its members to the Central he bears with him the resolutions of his Chamber, and his action is limited within the spirit of the resolutions, and the member delegated is chosen as well acquainted with the subject, and whose opinions are in harmony with the resolutions." And further: "Such a Council—with independent action—would be less of an association of Chambers than of a small agricultural Parliament, and the effect of such independent action would not fail to sap the vitality and energy of provincial Chambers; the extinguishment of local control would paralyse local action. The common sense of agriculturists would naturally ask the question, What degree of power or usefulness does such a Central Council possess beyond our ordinary real parliamentary representation?" Colonel Tomline and Mr. Lawson certainly look to agree very well as to the mere pretensions and actual uses of the Central Chamber of Agriculture; and at the last meeting of the North of England Chamber the members declined to entertain any communication from or pay any subscriptions to the Central Chamber for the present. As the Chairman said, "they were quite in the dark as to what the Central Chamber would do." Then, again, at the last Monthly Meeting of the Morpeth Chamber the following reply was ordered to be given to a letter from the Local Taxation committee soliciting a subscription: "The objects of the Local Taxation Committee appear to be similar to the objects of the Morpeth Chamber of Agriculture, and this Chamber cannot see that the grounds on which such Committee applies for contributions from the Morpeth Chamber could not be at least as fully urged by this Chamber on the Local Taxation Committee. In declining to contribute to the expenses of the Local Taxation Committee, this Chamber begs to express its cordial

sympathy with every person or institution (under whatever name) that is earnestly endeavouring to effect an improvement in our local taxation." This is very politely put, but at the same time the application appears to be regarded as something of an impertinence. If the Morpeth Chamber has anything to urge as to local taxation, of course it can put its case into the hands of its own town and county members, without paying to put it under the charge of any particular gentleman selected by the Central Chamber of Agriculture.

But this is a habit with the Central Chamber, which is always pleading poverty and always sending round the hat, as we hear a subscription list under its auspices is now being put about London. And yet the Chamber can afford to treat its own Council, that is itself, with the most charming liberality. There are other central agricultural associations, like the Royal, the Smithfield Club, the Farmers' Club, and the Royal Agricultural Benevolent Institution, where the members of Council and Committee feel it something of an honour and a distinction to be called up to act to the best of their ability on behalf of themselves and their fellows. But not so the twenty-four members of the Council of the Central Chamber of Agriculture, where, to "ensure an attendance," as the phrase goes, a second-class fare for each man must be paid there and back. Put in the secretary, and say twenty-five people for eight meetings a year at so much a visit, and what does it come to? To carry the thing handsomely out, surely they should also be boarded and lodged, if not perhaps in the one small room in Salisbury-square, of which Colonel Tomline speaks. But unfortunately the Central Chamber has no room, no office whatever in Salisbury-square. This great centre of communication has

actually no resting place of its own, but is pushed from pillar to post just as it may suit the Hotel to give the occasional use of a room here or there, now or then. The Council in its last report plaintively "regrets the necessity for keeping down the printing account has compelled them to confine within narrow limits the issue of printed matter on very important subjects," and yet the Council, as we shall assume, continues to draw the second-class fare. Well may Mr. Kersey be glad that it is proposed to reduce the Council from twenty-four to twelve, the advantage of which in a commercial point of view is as clear as £ s. d. can count it. But it is proposed to go even beyond this, and to cut off the supply of second-class tickets altogether. We have before now suggested the decency of such a step, but in this article it must be understood that any criticism on the proposed amendment of the Central Chamber does not now proceed from *The Mark Lane Express*, but either from its own body or the local Societies. Two of these authorities are past chairmen—Colonel Tomline, who says that the Central Chamber has done nothing, and Mr. Sewell Read, who recommends that the travelling expenses of the members of Council should no longer be paid. If we did go a step further, we should say that the future Council, however composed, would best consult its dignity by not descending to puff off in its official reports any particular "jobs" in which any of the Council or its people may be known to have an interest. Only imagine a Society which aims at a national importance being brought to such a use by the guardians of its own honour! No wonder that the country cries out for reform, or rather for thoroughly new construction.

THE CENTRAL CHAMBER OF AGRICULTURE.

A meeting of the Council, comprising deputed members from provincial chambers and elected members of Council, was held on Wednesday, December 7, at the Salisbury Hotel. Colonel Tomline, M.P., the president for the current year, occupied the chair at this and also at the annual meeting of the subscription members which followed.

The TREASURER reported that during the past half-year there had been received in subscriptions and donations the sum of £459 15s., and that the balance in hand on last account was £171 13s. 4d., together £631 8s. 4d. From this was to be deducted, for salaries, printing, and expenses of general management £505 8s. 2d., which left a balance to the good of £126 0s. 2d.; add to this for arrears of subscriptions £65 and the assets to the credit of the Chamber would come to £191 0s. 2d. This statement was not quite so favourable as that for the last-half year; but £50 had been subscribed to the funds of the Local Taxation Committee.

Eleven additional members were then elected to the Chamber.

The CHAIRMAN of the Local Taxation Committee, Sir M. Lopes, M.P., then submitted the monthly report of the committee as follows:

The Local Taxation Committee, in presenting their monthly report to the Council of the Central Chamber of Agriculture, have much pleasure in stating that, in accordance with a resolution passed at their last general meeting, they have commenced the issue of a monthly publication, giving various items of information on the subject of local taxation. Of this 4,000 copies have been gratuitously circulated over the country, chiefly amongst clerks of the peace (who have been requested to bring the same to the notice of justices), amongst the members of the committees, the local honorary secretaries, subscribers, and others who are friendly to the object the committee have in view. Agreeably to the desire expressed at the last general meeting of the Council, your committee have also drawn up a form of petition to the House of Commons, which will be submitted for approval to magistrates assembled at Quarter Sessions.

The committee do not venture to put it forward as a model for every county, but express a hope that Courts of Quarter Sessions in each county will alter and amend it to suit their own views or respective requirements. The committee would observe that the petition as it now stands has been approved by a committee of the Court of Quarter Sessions of Devonshire, appointed for that purpose, and will be submitted for adoption at the next General Quarter Sessions.

To the Honourable the Commons, &c.—The Humble Petition of the Justices at Quarter Sessions assembled for the county of Devon

HUMBLY SHOWETH,—That the rates collected under the authority of this Court for county purposes form a heavy and annually increasing charge on real property (viz., lands and houses), in addition to the general taxes for imperial purposes which it bears in common with all property. That these charges are for the most part in support of such objects as police, buildings for militia stores, lunatic asylums, and the maintenance of those lunatics whose settlement cannot be ascertained, coroners, prisons, and other matters connected with the administration of justice, &c., &c., all of which purposes are essentially of national import, and are maintained for the security of the life of all persons equally, and for the protection of every description of property. That only an average of little more than 20 per cent. of the amount of the rates so collected under the authority of this court is, as respects its expenditure, in any way under its control, while nearly 80 per cent. is expended under statute, and is, therefore, under the control of the imperial Government. These facts appear from a return printed by order of your honourable House on the 21st of April, 1869, where the total amount of county rate spent under statute was £1,589,910, whilst the amount spent under control of the Justices was only £359,451. It further appears, from a return made to the House of Commons in the year 1867, that in Devonshire the whole of the county expenditure for

that year was £39,000; the amount of this which was statutory, and over which the magistrates had no control, was £33,000, and the amount under the independent jurisdiction of the magistrates was only £6,000, and that included salaries, bridges, highways, and other miscellaneous payments. (Each county would here insert similar statistics.) The Court cannot help further remarking that whilst remission of Imperial taxation has been annually made for the benefit of the whole nation, very many newly-imposed burdens have been laid chiefly, if not wholly, upon house and land property. That in justice to the ratepayers, and having regard to this absence of local control, this Court prays your Honourable House to take into your early consideration whether it be not expedient to defray from the Imperial Exchequer the expense of the whole, or a larger portion of such objects as those to which these rates above enumerated are devoted. And your petitioners, &c. A form of memorial has also been drawn up at the request of several provincial Chambers of Agriculture which the committee recommend for their use, and that of ratepayers generally, when appealing to Courts of Quarter Sessions to petition the House of Commons. The form of memorial as approved by your committee is as follows:

To the Justices in Quarter Sessions assembled for the County of ———. The Humble Memorial of the Ratepayers of the said County, being Members of the Chamber of Agriculture.

The undersigned ratepayers, owners, and occupiers of land and houses in the County of ———, feeling strongly the urgent necessity of some revision and readjustment of the present mode of assessment, and of inducing the Government to contribute more largely towards those rates which are levied under the authority of Courts of Quarter Sessions, would respectfully beg to call the attention of your Honourable Court to the extreme importance of this subject, and would express a hope that the Court, as the rating authority, will, on behalf of the ratepayers, petition Parliament to take this question into their early consideration. Your memorialists would observe that these burdens have of late years been vastly increased by rates for new objects, such as police, buildings for militia stores, lunatic asylums, &c., &c., which objects, they contend, are for the common weal, rather than for the benefit of one particular class of the community. In conclusion, your committee feel that their present difficulty is how to reach the Board of Guardians, and the smaller ratepayers, more particularly those interested as owners or occupiers of houses in towns. During the present month the committee will make every effort to influence public opinion among this section of the ratepayers, and they hope to induce Boards of Guardians to petition Parliament early in the Session to take into consideration the whole of this important subject. Since the last monthly report the committee have received some further subscriptions amounting to nearly £60. There was one observation which he should like to make respecting a subject that was not alluded to in the Report. It was to give them a reminder with reference to the Elementary Education Rate recently imposed: that unless, where a parish desired to erect school-buildings, an application was made to the Privy Council before the 31st of December, the opportunity would be lost of obtaining a Government grant for that purpose. It would not be necessary, however, to send in estimates, specifications, and plans. All they would have to do, in the first place, was to write to the Privy Council Office for an application-paper, which they would then fill up, and return, accompanied by a rough plan of the proposed school-site. It was said by some that the building of schools was unnecessary, unless the children could be compelled to attend them. That, they thought, was a defect in the voluntary system; but he begged to state that, under that very voluntary system, it was quite within the power of the managers to appoint a Board simply for the purpose of making the attendance compulsory and regular, if they considered it expedient to do so. The same powers were found, therefore, under both the voluntary and the compulsory system. In conclusion, he moved the adoption of the Report.

A MEMBER asked whether the adoption of compulsion would not be subject to the approval of the Education Board? That was how he himself read the Act.

Sir M. LOPES believed not.

The motion was seconded by Sir G. JENKINSON.

Before putting the question, the PRESIDENT remarked upon the fallacy which sometimes lay hidden in the use of words,

and the wisdom of looking beneath and through them. It had been said that eighty per cent. of the local rates were imperative. Well, an imperative rate was a tax; and the matter would not bear a moment's consideration if these imposts were called a tax.

The motion was agreed to.

Mr. T. DUCKHAM mentioned that he had received some promises of subscriptions.

Mr. H. G. ANDREWS wished to be informed, what had been the effect of distributing the forms of petition amongst the members of the provincial chambers?

The SECRETARY replied that they were not returned to him, but when signed were transmitted to Members of Parliament for presentation.

Mr. ANDREWS would like to have some evidence that they had really been signed and forwarded to Members for that purpose. His own experience was this. In his county, where a complete organization existed, he had sent only 550 copies of the petition and memorial to as many parishes; and now at the end of some months he had only 40 signed and returned. He thought, therefore, that it would be a simple waste of money to send out any more of these printed forms of petition. The fact was that the feeling prevailed very extensively that the House of Commons took very little notice of petitions; and his own impression was that, if County Members in that House were unfavourable to the objects of the Chamber, they should be turned out at the next election (cheers and laughter). Nay, more, he should like to see the boroughs doing the same (renewed cheers).

A communication on the subject of local taxation, received from the Shropshire Chamber, was ordered to be acknowledged; as was also a letter from Professor Leone Levi, requesting that a meeting of the joint committee of the Chamber and the International Decimal Association on weights and measures might be arranged with a view to bringing the question under the consideration of Parliament early in the ensuing session.

On the motion of Sir M. LOPES, seconded by Mr. T. WILSON, the committee was then re-appointed, with a special instruction, moved by Mr. C. S. READ, that it should take no action until the meeting of the Chamber in February.

The Treasurer and Secretary were re-appointed.

The annual report of the Council prepared by the business committee was then laid upon the table. It is as follows:

In presenting their fifth annual report, the Council would call attention to the continued progress of the Chamber of Agriculture both in number and in organisation. Three influential Chambers, namely, those of Cambridgeshire and the Isle of Ely, Nottinghamshire, and Wisbech district, have been added to the list during the past year; and several chambers have increased their subscription to the funds of the Council, or, the Worcestershire Chamber from £10 to £15, the Warwickshire Chamber from £5 to £8, and again from £8 to £15, the Dorsetshire Chamber from £3 to £5, while the West Riding Chamber forwarded a donation of £5 in addition to its annual subscription. The Wigton Farmers' Club, deeming itself too remote from the place of meeting in London, has withdrawn. By the schedule appended to this report it appears that there are now two chambers subscribing £15 each to the funds of the Council, three chambers subscribing £10 each, one chamber subscribing £9, two chambers subscribing £7 each, twenty-eight Chambers subscribing £5 each, and seventeen chambers subscribing £3 each. Fifty-three Chambers contributing to the funds of the Central Council, and one Chamber, namely, the Scottish, being in corresponding association without subscribing, constitute the fifty-four Chambers which are entitled to representation in the Council by means of deputed members; and one Chamber, namely, the East Worcestershire, subscribers without being entitled to send up a deputed member—making a total of fifty-five Chambers. But considerable development has been given to the system of Branch Chambers; it being found that, where a large society of, say, six hundred or seven hundred or more members holds its periodical meetings only in the county town, or occasionally in other principal market towns of the county, but a small proportion of the whole body of members can possibly be present, and the resolutions passed by a meeting of perhaps one-tenth of the members composing the Chamber go forth as the decisions of that Chamber. Hence the extension which is being given to the system of Branch Chambers, in

which either the members are considered as members of the County Chamber, or else appear by representatives at the meetings of the County Chamber. The Devonshire Chamber has four branches in association, namely, at Barnstaple, Bideford, Colyton, and Honiton; the North of England Chamber has organized branches for the thirteen Poor-law Unions of Alwicks, Belford, Bellington, Berwick, Castle Ward, Gateshead, Glendale, Hexham, Lanchester, Morpeth, Rothbury, and Tynemouth; the Shropshire Chamber has eight branches, at Ellesmere, Ludlow, Much Wenlock, Newport, Oswestry, Shifnal, Wellington, and Wem; the Warwickshire Chamber has two branches at Henley-in-Arden and at Shipston-on-Stour; and the North Riding of Yorkshire Chamber has nine branches for Bedale, Malton, Pickering, Ripon, Ryedale, Scarborough, Thirsk, Whitby, and York. Including the thirty-six branches, there are now ninety-one Chambers of Agriculture, either directly or indirectly affiliated with the Central Chamber in London; and, from the returns (not complete) received from the various secretaries, this great organisation embraces a total constituency of probably more than 17,000 members.

The united yearly contribution of the fifty-four subscribing Chambers amounts to £275, entitling them to representation in the Central Council by one hundred and eleven deputed members, the average payment being about £2 9s. per member. The proportion contributed to the funds of the Council by the subscription members of the Central Chamber is as follows:—There are now on the books 155 annual members, and ten life members; and as three life compositions have been received during last year, the present rate of yearly income from subscription members amounts to £185. The subscription members are represented in the Council by twenty-six elected members, who are allowed to claim second-class railway fares for attending meetings; the outlay incurred during the past year for this railway provision for a certain attendance of members to transact business has amounted to £112; and deducting this sum from the whole contribution of the subscription members, namely, £185, it appears that the subscription members of the Central Chamber bring to the funds at the disposal of the Council a clear sum of £73, which is virtually a payment for the twenty-six elected members of the Council, averaging about £2 17s. per member.

The income of the Council has been considerably increased since last year, but the expenditure has been much greater, partly owing to a grant of £50 to the special fund of the Local Taxation Committee. The established charges, including the salary of the Secretary, exceed those of last year by only about £27; the printing, stationery, and postage account is about £15 less; and the expenditure for Parliamentary Papers supplied to the provincial Chambers and to the Central Chamber office remains about the same as the corresponding item last year. Partly arising from the earlier date for closing the books, the arrears of subscription are fully as heavy as they were at the end of 1869, three provincial Chambers being in arrears with their subscriptions for 1870, and one of them also for 1869; while of subscription members of the Central Chamber, forty are in arrear for 1870, sixteen of these being in arrear also for 1869, and five for 1868. The Council would impress upon such Chambers and members the importance of a prompt payment of their subscriptions, which are due in advance on the 1st of January for each year.

The Council regret that the necessity for keeping down the printing account has compelled them to confine within narrow limits the issue of printed matter on the very important subjects which have been discussed. They tender their thanks to the agricultural newspapers for full reporting, and to the press generally for giving publicity to the proceedings of the Council.

Of the fifty-four Chambers entitled to send deputed members to the Council thirty-nine have been thus represented during the past year. Of the eight meetings held from December, 1869, to November, 1870, the Warwickshire and Worcestershire Chambers have attended all; the Peterborough Chamber has attended seven; the Essex, Lincolnshire, Norfolk, Shropshire, and East Suffolk Chambers have attended six; the Hertfordshire, West Kent, Leicestershire, Monmouthshire, and West Suffolk Chambers have attended five; the Cambridgeshire, Hampshire, Northamptonshire, Nottinghamshire, Somersetshire, and Wisbeach Chambers have attended four; the Banbury, Herefordshire, East Kent, Newbury, Swindon, and West Riding of Yorkshire Chambers have attended three; the

Cheshire, Cirencester, Gloucestershire, Hungerford, Loughborough, North of England, Dorsetshire, and North Riding of Yorkshire Chambers have attended two; and the North Cheshire, Croydon, Goole and Marshland, Scottish, Staffordshire, and East Riding of Yorkshire Chambers have attended one. At every meeting a large majority of the Council has consisted of deputed members from provincial Chambers, and this fact is very gratifying to the originators and early supporters of the Central Chamber of Agriculture, whose desire was to establish a nucleus, around which might be gathered a body properly representative of a large number of independent societies, expressing the views and feelings of the whole agricultural community. The Business Committee, consisting of the twenty-six elected members of the Council, and always inviting the co-operation of any deputed members from provincial Chambers, whose presence has been from time to time available, have exerted themselves to arrange details of proceedings for the Council, and have greatly facilitated the orderly progress of debate, by drawing up concise resolutions in accordance with the general tenour of resolutions received from the provincial Chambers, and this without exercising any executive power whatever. Communications from provincial Chambers have, in all cases, been dealt with by the whole Council, the Business Committee possessing neither authority nor responsibility in connection with any decision or transaction of the Central Council. And, as far as practicable, care has been taken that the Chambers should have notice of the day of meeting and subjects for consideration several months beforehand.

LOCAL TAXATION.—On February 8th the Council voted a donation of £50 to the Local Taxation Committee, which was appointed by the Council in May, 1869; the proceedings of the committee have been reported at each of the monthly meetings of the Council; its report is appended to the present report of the Council, and the Chamber may be congratulated upon the success of that committee in raising a handsome special fund, in circulating a prize essay that has been found unanswerable, in disseminating printed matter, in organising public meetings, in moving parochial and municipal bodies to take action against the inequalities of rural taxation, in prompting a wide-spread discussion of the county rate grievance by magistrates in quarter sessions, and is largely influencing the course taken upon local taxation questions in the House of Commons. On May 3rd the Council unanimously reiterated the protest against the unjust exemption from contribution to the rates of income arising from personal property, declaring that the order in which the Government had indicated its intention of considering the local taxation questions was irregular and inexpedient, that no readjustment of the existing system will be acceptable unless preceded by an inquiry determining what objects now locally provided for are of local, and what of national obligation, and that the mere extension of assessment to woods, metallic mines, and Government property, and a division of rates between owners and occupiers could not be accepted as a settlement of the grievance complained of. Copies of the resolutions were forwarded to the President of the Poor Law Board. Public meetings were held at Taunton in the week of the Bath and West of England Society's Show, and at Oxford in the week of the Royal Agricultural Society's Show, both under the presidency of Sir Massey Lopes, Bart., M.P., chairman of the Local Taxation Committee.

ELEMENTARY EDUCATION.—On March 8 the Council unanimously resolved that the Government Elementary Education Bill merited the support of the Chambers, but declared against compulsory attendance of children up to the age of twelve years as a great hardship to the labouring classes, and in favour of regular attendance up to the age of ten years, supplemented by partial attendance after that age. The Council also resolved that the proposed education rate was an increase of an injustice upon owners and occupiers of rateable property, and that national education ought to be paid for out of the national taxation, at least until there has been a complete revision of the present system of rating. On April 5 the Council resolved that compulsory attendance ought to be required after ten years of age, nor after a certificate of proficiency in reading and elementary writing, at any age; and on May 31 the Council resolved that the limit of distance determining the exemption of a child from liability to attend school should be two miles instead of one.

TURNPIKE ROADS AND HIGHWAYS.—On February 8 the Council had before them resolutions embodying the views of the great majority of the Chambers of Agriculture on the Turnpike Trust question, to the effect that all remaining Turnpike Trusts ought to be abolished simultaneously; that the maintenance of all public roads should be settled upon a permanent and equitable system; that it would be unjust to charge the remaining debts upon rateable property only, and that those debts ought to be liquidated by the national exchequer, and that either the road expenditure ought to be partly defrayed out of the imperial revenue, or the rating system should be so revised as to bring under equitable contribution the general wealth of the district through which the roads pass. But after listening to an explanation from Mr. Knatchbull-Hugessen, M.P., Under Secretary of State for the Home Department, the Council unanimously resolved that it would be inexpedient to recommend any substitute for the toll system which might lead to increase local burdens, until the Government had announced their promised scheme for dealing comprehensively with the whole subject.

AGRICULTURAL STATISTICS.—On February 8th the Council considered a resolution to the effect that the agricultural returns as at present collected, are unreliable and unsatisfactory; that they should be made once in ten years, and be then compulsory. A proposition was also made that the returns should be quinquennial. Neither of these motions obtained a majority of votes; and the original resolution was discharged by the chairman. But an amendment declaring that agricultural returns should be annual and compulsory was lost by a considerable majority.

MALT-TAX.—On March 8th, at a Council attended by deputed members from thirty-two chambers, a deputation was appointed to lay before the Chancellor of the Exchequer a memorial praying for unrestricted liberty to sprout and prepare grain for feeding purposes, and praying for a repeal or reduction of the malt-tax, or for a transference of the tax from malt to beer by brewers' licences or otherwise. The deputation, which had an interview with Mr. Lowe on the same day, was supported by fifty-seven members of Parliament, and a very large number of agriculturists from the different chambers; the presentation of the memorial was followed by addresses from Mr. Rowley (of the Cheshire Chamber), Mr. G. A. Way (of the Staffordshire Chamber), Mr. Scaman and Mr. J. S. Gardiner (of the Essex Chamber), Mr. J. Whitwell (of the Peterborough Chamber), Mr. Manfred Biddell (of the East Suffolk Chamber), Mr. R. Leaman (of the Norfolk Chamber), Mr. R. Jasper More (of the Shropshire Chamber), and Mr. C. H. Luttimore (of the Hertfordshire Chamber). The Chancellor of the Exchequer admitted that the malt-tax interferes very much with the cultivation of the land and with the business of those who are engaged in husbandry; he declared that he should be very glad to reduce the tax if in his power to do so, and that if he could find any means of putting the duty upon a late stage of the manufacture upon beer instead of malt, nothing would give him greater satisfaction than to propose it.

REPORTS APPEARED IN THE LONDON AND PROVINCIAL PAPERS.—A very large number of copies of the memorial, the addresses, and the reply of the Chancellor of the Exchequer was circulated through the agency of the Chambers of Agriculture and otherwise.

UNIFORMITY OF WEIGHTS AND MEASURES.—On March 5th the Council entertained an application from Professor Leon Levi, of the international Decimal Association, for co-operation in obtaining a parliamentary inquiry into the best remedy for existing anomalies and disadvantages in our practice of weighing and measuring; and on April 5th the Council unanimously agreed to a petition praying for such select committee of inquiry. On May 3rd the Council appointed a deputation to attend a conference on the subject, at the Society of Arts on May 6th. On May 31st the Chairman (Colonel Tomline, M.P.), Mr. C. T. Head, Mr. Albert Pell, M.P., Mr. R. Jasper More, Mr. R. Varden, and the secretary (Mr. John Algernon Clarke), was appointed by the Council to act as members of a joint committee of the Central Council and the International Decimal Association, the latter being Earl Fortescue, W. J. B. Smith, M.P., Mr. James Yates, F.R.S., Mr. T. L. D'Eyncourt, Dr. Voelcker, and professor Leon Levi. This Committee drew up a report necessitating certain adaptations of our weights to the metric standards, recommending

that grain should be sold by "quintal" of 100 kilograms (or about 220 lb.), and that the kilogram, with its divided multiples and divisions, should be established as the sole standard unit of weight. Copies of this report have been transmitted to the Chambers of Agriculture, the Chambers of Commerce, Farmers' Clubs, and Municipal Councils; and on Oct. 4th the Council referred to the report to the provincial Chambers, requesting them to consider and resolve upon it prior to the Council meeting of February, 1871.

DISCOURAGEMENT OF THE APPLICATION OF CAPITAL TO AGRICULTURE.—On April 5th the Council unanimously resolved that the application of capital to agriculture is discouraged by (1) the undue amount of local taxation upon capital invested in land and its improvement; (2) uncertainty of tenure and the absence of compensation for unexhausted improvements; (3) unnecessary restrictions upon courses of cropping; (4) the over-preservation of ground game.

GUN-TAX.—On May 5th the Council unanimously agreed to a petition praying that the duty on game certificates might be retained; and that the exemption from the gun-tax of firearms kept within a house might be extended to those used upon the land and premises in the occupation of the owners of such guns.

GAME-LAWS.—On May 31st the Council unanimously passed a resolution declaring that an excessive preservation of ground game is incompatible with good farming, but disapproving of any legislation that would interfere with freedom of contract between owners and occupiers. The Council unanimously resolved that, in justice to ratepayers, all land should be rated at its full value, irrespective of any reservation of the rights of sporting on the part of the owner. The Council also passed a resolution to the effect that hares and rabbits ought to be excluded from the operation of the game-laws; but that such exclusion would render imperatively necessary a change in the law of trespass by giving a summary remedy without the necessity of proving pecuniary damage.

CATTLE IMPORTATION AND THE HOME CATTLE TRADE.—On November 8th the Central Council unanimously resolved that the thanks of the Council are due to the Right Hon. W. E. Forster, M.P., for the prompt manner in which the powers of the Contagious Diseases (Animals) Act were put in force upon the outbreak of cattle-plague on the Continent; but that the interests of both producers and consumers deemed that effective regulations for waterside slaughter should be permanently extended to all imported fat animals with guarantee for store stock. The Council also expressed their hope that the Government would firmly carry out the provisions of the Contagious Diseases (Animals) Act with reference to the establishment of a permanent metropolitan foreign cattle market, and that when such market has been opened the present restrictions against the removal of cattle from the metropolitan area will be rescinded.

RAILWAY CARRIAGE OF DEAD MEAT.—On November 8th the Council, by a resolution passed unanimously, called attention to the exorbitant charges of the railway companies for the conveyance of dead meat, and besought the railway companies, by a reasonable reduction of their tariff, to facilitate the supply of meat to populous districts.

INSURANCE OF FARMING STOCK.—On November 8th the Council unanimously resolved that the average clause, as insisted upon in the new regulations of the principal fire insurance companies, is inapplicable to a property so variable in amount and value as agricultural produce. The secretary was instructed to apply to the non-associated offices for statements of the terms upon which they effected insurances, and a committee consisting of Colonel Tomline, M.P., Mr. C. S. Read, M.P., Mr. Arthur Pell, M.P., Mr. Cornelius Wilfour, Captain Catling (of the Wisbeach Chamber), Mr. Jabez Turner (of the Peterborough Chamber), Mr. W. H. Morrison (of the West Riding of Yorkshire Chamber), Mr. W. K. Varden (of the Worcestershire Chamber), with the Secretary of the Central Chamber, was appointed to confer with the various insurance offices as to the most equitable mode of insuring farming stock, and to report thereon to the Council. The Licence Duty upon Farmers' Horses, and the abolition of the Hawkers' Licence, also engaged the attention of the Council.

RELATIONS OF THE CENTRAL AND PROVINCIAL CHAMBERS.—On October 4th the Council took into consideration resolutions forwarded from several provincial chambers making proposal for securing more united action between the

Central and provincial bodies, and the discussion was adjourned to the December meeting.

Mr. H. G. ANDREWS urged the importance of taking steps to make the proceedings of the Chamber more generally known to the public, and suggested that, with this object in view, a condensed report of them should be prepared by the Secretary, and sent to all the London newspapers, and to as many local ones as might be thought desirable. This plan was adopted both by the Royal Agricultural Society and the Bath and West of England Society, and would involve a very small expense. He contended that the principal channel through which they must work in order to influence public opinion was the press (Hear, hear). At present many of the London daily papers took not the slightest notice of their monthly meetings, whilst they reported all the meetings of Chambers of Commerce; and his own opinion was that Chambers of Agriculture occupied quite as important a position as they did.

Mr. NIELD differed from Mr. Andrews to the extent of thinking that the Chamber was greatly indebted to the press, and that it would be a mistake to send to the papers stereotyped and official communications from the Secretary (Hear, hear).

Mr. C. S. READ observed that reporters were not admitted to the Council meetings of the Royal Agricultural Society, and (pointing to the number of reporters seated at the table), said that such an array was in itself a sufficient proof of the interest taken by the London press in the proceedings of the Chamber.

Mr. YOUNGMAN: If the agricultural press were not in harmony with the Chamber the reason was easily explained; and he believed that so long as the Chamber maintained a paid organ they might expect to encounter opposition from a certain class of agricultural journals (Hear, hear).

The Council next proceeded to select the subjects for consideration and discussion at the meeting in February.

Mr. SMYTH suggested that the malt-tax was a question which the Council might with propriety deal with once more, if only to keep the Chancellor of the Exchequer in mind of the admission he had made as to its injustice (Hear, hear).

The PRESIDENT thought that discussion on the tax had long been exhausted, and that "action" was what they wanted now (cheers). The sphere for that was the House of Commons, where the county members were as much their delegates constitutionally as the members of the Council were in the Central Chamber of Agriculture (cheers).

A MEMBER remarked that the matter must not be left entirely to county members, who would not be strong enough to deal with it unless they were backed up and urged forward by the constituencies (Hear, hear).

Ultimately the subjects chosen for February were, "The Steps to be taken with regard to the Repeal of the Malt-tax," "Weights and Measures," and "Highways and Occupation Roads."

Mr. C. S. READ, M.P., said that, as one of the original members who had taken a prominent part in the formation of the Chamber, he had placed on the business paper a notice that he would call attention to its constitution. This he had done, not with the idea that any great changes or reforms were necessary, but for the purpose of eliciting from the various district Chambers what were their wishes on the subject (Hear, hear). Although a great number of those Chambers had expressed themselves favourable to some alterations, however, they were not at present agreed as to what the amendments should be; but one thing he gathered was that they imagined the Central Chamber possessed too much power. Now, according to the rules, the Central Chamber elected from amongst its own members 24 members of Council, together with a President and Vice-President, in all 26; and the district chambers had the power of electing, and he believed did elect not less than 111 members of Council, the whole of whom came to the Central Chamber, took part in its deliberations, and had a right to vote exactly in the same way as the other members of the Council. Consequently, the district chambers enjoyed a preponderance of four to one; and at the meetings of the Council he had always seen twice as many members from district chambers as there were of the central body. [Mr. NIELD: "Three to one."] No doubt. Two to one was certainly under the mark (Hear, hear). Now, what the Chamber chiefly wanted to enable it to carry on its

operations was the "sinews of war"; and in order to procure them the members of the district chambers must have some privileges conceded to them. But what inducement was there for any man to become a member of the Central Chamber, except the privilege of coming there once a year and electing the members of council at the annual meeting? That was all the privilege the subscription member enjoyed; yet that was a privilege which it was desired in some quarters to curtail. Let it be remembered that the business committee was elected by the general Council as a whole, and not by the 24 members of the Central Chamber Council. Last year they elected these 24 members of Council as the business committee, with power to add to their number, and that committee subsequently gave a general invitation to all members who were deputed by the district chambers to come and assist them at their deliberations in framing the resolutions to be submitted at the general council meeting on the following day. What had happened? If any gentleman would go and spend two or three hours night after night in preparing these resolutions, he would see that the Central Chamber, so far from having too much had too little power; and that, by reason of there being so many members present talking, the committee had the greatest possible difficulty in settling what the resolutions should be. The fact was that if, instead of having twenty or thirty men on the committee, they had but three or five, the work would be done much more expeditiously, and he believed more satisfactorily. So far from desiring, then, to increase the number of the business committee he, for this reason, would prefer seeing it reduced within something like a reasonable limit (Hear, hear). Again, it should be observed, that the gentlemen from the country had the appointment of the business committee already in their hands. As an old and experienced member of the Council, then, he would suggest what he considered would be the proper course. If they thought the Central Chamber had too much power, let them cut down the number of the committee from 24 to 12. He for one would be but too glad to find that it met their approbation. In the next place, he would recommend that the travelling expenses of the members of Council should not be paid by the Central Chamber—and it would be well, also, if the proportion of delegates to be sent by the district chambers were better regulated. First, they must contribute a certain amount of subscriptions; but care should be taken that the small rich chambers did not acquire a disproportionate number of votes in the Council by that means (Hear, hear). He would, therefore, suggest that the number of representatives sent by each chamber should be regulated by the number of members of which it was constituted, as well as the subscriptions they sent. It had been suggested that the president of the Chamber should be elected, not by the members of the Central Chamber, but by the general council. On that head if the general council would be good enough to undertake the appointment of the chairman he was sure the ordinary council would feel extremely indebted to them. At the present moment the Chamber was without a vice-president; and though the Council had requested several gentlemen to honour them by taking the office, they had had the greatest difficulty in finding one who was willing to do so. He only expressed the opinion of the Central Chamber council when he said that they would be but too happy to delegate that duty to the general meeting. One suggestion emanating from some of the provincial chambers was that their president for the year should *ex-officio* be a member of the Central Council. But that was the case now. They could elect a chairman for the whole year, or for every meeting, and send him as their representative, to act and vote on the business committee, and at the Council meetings. But was it a right thing that the Central Chamber should dictate to those district Chambers what they were to do? Let every Chamber do that which was right in its own eyes, and that difficulty was at once got rid of (Hear, hear). He moved: "That although it may appear expedient that some modification may be made in the laws and constitution of the Central Chamber, it is very undesirable to make any alteration until the whole subject has been carefully considered by a duly qualified committee, and this council, whilst strongly deprecating any hasty decision on such a [vital] question as the constitution of the Chamber, is of opinion that it could be wisely dealt with by referring it to a committee of ten members, including five

representatives of the Chambers who have expressed opinions favourable to a change in the Central Chamber." Having appointed such a committee he would then give them an instruction to the effect that the five members representing the Chambers which had expressed opinions favourable to a change should first of all meet and agree among themselves as to what changes they required (Hear, hear, and a laugh). They should then meet the other five members appointed by the Central Chamber; and he felt quite sure that if these gentlemen, before pronouncing a judgment upon the rules, would only read them, there would not be such a great diversity of opinion as now existed respecting them. Moreover, although the discussions upon this subject might have produced a little unpleasantness, if they met in a friendly spirit with a determination to do that which was best for the cause of agriculture, the Chamber would be more truly united than ever, and for that reason a greater power in the land (cheers).

Mr. MUNTZ seconded the resolution, and observed that it was not the case, as Mr. Read appeared to think, that the district chambers considered they had not sufficient power in the Central Chamber. There was quite as much desire on the part of the provincial chambers to secure unity of action, and impart increased strength to the whole body, as there was to make a change in the laws and constitution of the Chamber itself. It should be remembered, too, that the constitution of the Chamber was formed in the infancy of the institution; and that as the action of the Chamber was extended, some alteration must necessarily be required.

Mr. UMBERS, who supported the motion, dwelt upon the necessity of united action on the part of the agricultural chambers. What they wanted was to rally round then those who would be willing to supply the "sinews of war." He was often asked what the Chamber was doing and what it had done, and he wished that he had it in his power to give a satisfactory reply. He had always been one of the staunchest supporters of the Chamber; but what he wished was that men should of their own voluntary free-will come and throw their influence into the Chamber, instead of the Chamber going with entreaties to them for their help (Hear, hear).

Mr. WILD, in assenting to the motion, observed that in its origin the Chamber bore the character of a "club," composed of men who came there to enjoy themselves. Now, however, a number of provincial chambers were engrafted upon it, and the rules for its government should be adapted to the altered circumstances of the time.

Mr. BEACH, M.P., expressed his cordial concurrence in Mr. Read's motion.

Mr. PELL, M.P., as one who had taken an active part in the formation of the Chamber and the preparation of its rules, threw out the caution that, before proceeding to revise the rules, if a committee were appointed for that purpose, it would be necessary that they should have at their elbow some legal gentleman to take care that the amendments made were logical and in accordance with the principles and rules which governed other public bodies (Hear, hear). When the rules were drawn up he had the advantage of receiving the assistance of a leading barrister, and he believed they were so constructed as to hold water from one end to the other so far as the conduct of the business of the Chamber was concerned (Hear, hear). He was ready to admit, however, that they might be susceptible of modification or improvement in some respects—such as representation in the Central Chamber, the appointment of the chairman, and some other matters of detail. With reference to the remark of Mr. Wild, he begged to state that the 3rd rule clearly and explicitly anticipated the accession of local chambers, with the view of making up that great body which was called the Central Chamber of Agriculture.

Mr. LITTLE, of the Cambridgeshire Chamber, wished it to be understood that, in urging a change in the constitution, that body was not actuated by any hostile feeling to the Central Chamber. Mr. Read, in fact, had in his speech, conceded most of what they asked for, the most important of these concessions being that the representation of the local Chamber should be proportioned to the number of their members and the amount of their subscriptions, and that a new arrangement should be made for the appointment of the president. As to the business committee, they might or might not be too numerous, and it was true that they had power to add

to their number; but it made all the difference whether a man went into the room with that committee on mere sufferance or appeared on the list as an elected member of the committee (Hear, hear). He felt, therefore, that his Chamber was not wrong in urging that the business committee should be composed of an equal number of the Central Chamber and of the deputed members of Councils (Hear, hear).

Mr. BRAMLEY, speaking on behalf of the Lincolnshire Chamber, thought that if the twenty-six elected members of Council could be reduced to twelve, exclusive of the president and vice-president, the effect would be to add much to the business capacity of the Chamber.

The discussion was continued by Mr. Hicks, Mr. Bowen Jones, Captain Best, Mr. Duckham, Mr. Nield, Mr. Whitaker and Mr. Turner. Sir G. Jenkinson suggested, with the view of avoiding a "hitch," seeing that five members of the proposed committee were likely to go into it predetermined to effect certain alterations, that the whole number should consist of eleven, instead of ten. They would otherwise be likely to come to a dead-lock (Hear, hear).

The resolution as originally proposed by Mr. Read was, however, put and carried unanimously; and it was also agreed that the following gentlemen be appointed the committee to inquire into and consider the constitution and laws of the Central Chamber, and to report to a meeting of the Council specially convened for that purpose: Mr. G. F. Muntz (Warwickshire), Mr. Smith (Essex), Mr. Bowen Jones (Shropshire), Mr. Little (Cambridgeshire), and Mr. Bramley (Lincolnshire), as representing the five "reforming" chambers; and Sir Massey Lopes, M.P., Mr. Pell, M.P., Mr. D. Long, Mr. T. Duckham, and Mr. Read, M.P., the "constitutional party."

This matter disposed of, the annual meeting of the subscription members followed, when the report of the Council given above was formally received and adopted.

On the motion of Mr. C. S. Read, M.P., seconded by Capt. Craigie, Mr. Heneage, chairman of the Lincolnshire Chamber of Agriculture, and formerly member for Lincoln, was elected Vice-chairman of the Central Chamber for the ensuing year by an unanimous vote.

The next business was the election of eight members of Council in the place of the like number who retire from office by rotation.

On the motion of Mr. Whitaker, seconded by Mr. Wild, five of the eight retiring members were re-elected, namely, Mr. Thomas Willson, of Knaptost Hall, Rugby, Leicestershire; Mr. H. Genge Andrews, of Rington, Sherborne, Dorset; Mr. Thomas Horley, jun., The Fosse, Leamington, Warwickshire; Colonel Tomline, M.P., Riby Grove, Great Grimsby, Lincolnshire; and Mr. James Webb, of Spring Hill, Fladbury, Pershore, Worcestershire. The three other vacancies created by the retirement of Mr. W. Biddell, of Lavenham Hall, Sudbury, Suffolk, Mr. Jas. Howard, M.P., of Bedford, and the Earl of Lichfield, of Shugborough, Staffordshire (against whose names the attendances were marked *Nil*), were supplied by the election of Mr. Thos. Arkell, of Wiltshire, Mr. C. M. Caldecott, of Warwickshire, and Mr. Hodsoll, of Kent.

Mr. D. LONG, in consequence of the appointment of the Committee on the constitution of the Chamber, withdrew the motion of which he had given notice, to the effect "That a subscription of £20 shall constitute any person a perpetual honorary member of the Central Council, entitled to speak and to vote at all its meetings, but no travelling expenses of such perpetual honorary member to be allowed," as this subject will, *inter alia*, be referred to the consideration of the committee.

Mr. R. JASPER MORE proposed—and Capt. CRAIGIE seconded, "That the March meeting of the Council shall extend over more than one day." The mover urged as reasons for the proposal the example of the Chambers of Commerce, which always held their sittings for some days at the commencement of the Session of Parliament, and the opportunity it would give the Chamber of communicating with Members at the House of Commons."

Mr. NIELD objected to binding the Council irrevocably to extend the March meeting, and moved, as an amendment, the insertion of the words "may if necessary," thus vesting them with a discretionary power in the matter.

The amendment was seconded by Mr. CALDECOTT, and

being accepted by Mr. More and Capt. Craigie, the original motion, so qualified, was adopted.

Mr. T. WILLSON withdrew his notice of motion, "That the Business Committee comprise one member from each provincial chamber, in addition to the twenty-six elected members of Council of the Central Chamber," this too being considered a subject that properly came within the inquiries of the newly-appointed Committee. A notice of motion by Mr. D. Long, relative to the attendance and voting power of subscription members, was not pressed for the like reason.

Colonel TOMLINE, in taking his final leave of the Chamber at the close of his presidential year, thanked the gentlemen of whom it consisted for the uniform support he had re-

ceived at their hands in the performance of his duties. Our organization, he proceeded to say, is good, but the "power" is not here. The organization of the chambers of commerce, too, is excellent, and has been long established; but power is not there either. Their power is in the Board of Trade, in the Cabinet which include the Board of Trade, and in the majority of the House of Commons, where I hope the county members, who do not form a board of trade, will prove themselves vigilant and effective in the endeavour to promote our objects (loud cheers).

A vote of thanks to Col. Tomline for his services, proposed and seconded by Mr. T. WILLSON and Mr. D. LONG, was then put and carried by acclamation.

THE CENTRAL AND THE LOCAL CHAMBERS OF AGRICULTURE.

At the dinner of the East Suffolk Chamber of Agriculture, at Ipswich, Lord HENNIKER, the chairman, said he had heard many members of this Chamber say they did not get much good out of the Central Chamber, and that this Chamber should not subscribe to it. They desired to have a central authority, which would at a moment's notice put on any pressure necessary, and would have the co-operation of every Chamber in the country. It was all very well to say that there were other interests stronger than the agricultural interest, but they had a very powerful engine if they worked it properly. The agricultural interest might not be so strong as others, but it was quite strong enough to be heard and respected if it spoke out boldly. He should like to hear Col. Tomline's opinion, he having greater knowledge of the working of the Central Chamber, as to whether some change might not be adopted so that it might work more advantageously.

Mr. W. KERSEY said he had been a tolerably regular attendant at the Central Chamber, and the thing that astonished him more than anything else was the number of amendments that had been made upon amendments, the greater part of the time being occupied in disposing of them, and he was glad it was proposed to reduce the committee of 24 to 12, as he believed one of the results would be that the business would be better prepared for the Council and so many amendments would not be proposed. At the Game-Law discussion the amendments were so numerous that Col. Tomline, the president, was obliged to propose a battue amongst them. At the last meeting of the Central Chamber the absurdity of sending petitions to Parliament was spoken of. If there was one thing more absurd than another it was a petition. The only use that he had been able to find petitions were put to was to be kicked about by the patent leather boots of some of the young exquisites of the House.

Mr. H. BIDDLE said at the Central Chamber Mr. C. S. Read said he had heard it said that the Central Chamber had too much power. Mr. Read laboured under a misapprehension. The Central Chamber had not more power than it should have, but many thought whatever issued from it issued from the Chamber as a body in itself. He took it that was not the object with which the Chamber had been instituted. It was meant to be the executive that should carry out the opinions of the numerous Chambers scattered all over the kingdom. In consequence of the distance of the Chambers in the north-west and extreme south from London the representatives of those counties lying near the metropolis practically formed the Central Chamber, and he suggested that every subject brought before the Central Chamber connected with Parliamentary action should first be submitted to all Local Chambers, who should forward the resolutions they arrived at to the Central Chamber, and at the discussion there, whether their representatives were present or not, their resolutions should be counted in calculating the votes upon the resolution submitted to the Central Chamber. At present, when anything coming from the Central Chamber was submitted to Parliament, it was easy for their opponents to say it was merely the resolution of a certain body, some of whom were elected representatives, but the others were members by virtue of having paid a subscription and having been elected by their fellow-subscribers. What was wanted was a body that would speak with power and authority for the agri-

cultural interest. The House of Commons would pay more attention to the resolutions of the Central Chamber if they were assured that they were the embodiment of resolutions passed by Chambers all over the kingdom.

Mr. F. S. CORRANCE, M.P., said with regard to Chambers of Agriculture and their composition, he quite agreed with Col. Tomline that they had been struggling onwards, upwards, and forwards to attain a more recognised position, and he warned them not to be impatient with them. If these Chambers seemed not wholly to meet the requirements do not let them say "Break them up" and do not let them put them on another footing, which might turn out less suitable. The Central Chamber had done its work in that before a member dare take up a matter of great public interest affecting the agricultural portion of his constituents he was obliged to first consult the wishes of the Central and other Chambers. He did not care how imperfect the machinery might be by which this most important result was attained when once it was effected. The Central Chamber could not possibly accurately represent the feelings of all the local Chambers, but to a great extent it did, and, therefore, to a great extent it was successful. The suggestions which had been thrown out with reference to the Central Chamber seemed to him chimerical. Supposing Mr. C. S. Read, Mr. A. Pell, and others who had given much time and attention to it were removed, and there were a representation by delegates, the result would be that each would go deeply impressed with the importance of his own Chamber and of himself; and these men not knowing each other and the worth of each as a public man, would be scarcely able to co-operate and carry on the business in a business-like manner. The talk would be interminable and the business absolutely nothing. When, however, they had been guided by such men as Mr. Read questions had been very effectually dealt with. Of course the whole thing was a bold experiment, and no one had wished or worked more for success than he. Mr. Corrance then referred to the circumstances which led him temporarily to quit the East Suffolk Chamber. At the last annual meeting it was agreed to discuss the Game-laws. To that proposition he gave his most unqualified approbation. He felt convinced that confined to the Chamber and confined to men he knew to be competent to handle it, they might handle even such a nettle as this with comparative safety. Work in the House of Commons prevented his attending the other meetings, and when he came down to his great surprise he found that not only had the meeting at which the discussion was to take place been advertised, but it was converted into a public meeting.

Col. TOMLINE said, with reference to the remarks that had been made about the Central Chamber, he would tell them frankly what he had always thought. He thought it would be a short-lived institution, because he had always felt that the true Central Chamber of Agriculture was the House of Commons, and that their true representatives there were the county members, and for this reason—the power was there. He was glad to see impatience shown by some delegates that the Central Chamber had done little or nothing. It showed they wished for results, and to have results they must look where the power was. The Central Chamber had practically no power. It was in the local Chambers, where he hoped it would always remain, and in the House of Commons. It was

in the local Chambers and from their representatives in the House of Commons that practical results would be obtained. The Central Chamber had done nothing, but, on the contrary, had got an additional rate for education; but that was not the fault of the Chamber; he would not say whose fault it was—he personally voted against the additional rate—but no one had a right to blame the Central Chamber, which had no power to exempt the class which they represented and wished to befriend from the imposition of another rate. They had done good in one respect, in having organized throughout England centres of thought and energy and, as he believed, of action, which would attain the result the Central Chamber had been unable to attain. There were 91 Chambers throughout England, and surely one small room in Salisbury-square was not so fit a place for those Chambers to exert their energies as was the House of Commons, where they would act by their representatives. He had felt some time that the Central Chamber was, after all, a sort of convocation with the semblance of power without its reality. The Central Chamber had done one good thing; they had endeavoured to bring facts and details before the public instead of mere generalities.

Mr. T. HAWKINS said, as to the game question, he would not deprive the landlord of the pleasure of shooting, and he never heard of a farmer who would; but when he saw hundreds and thousands of farmers ruined by over-preservation of game, he could not help thinking it was wrong. He spoke

firmly, because he knew no farmer in the county had suffered more than he. In 1828 he began farming, and took an occupation in a bad state, expended a great deal of money in improvements, his landlord backing him up. He was bound by a game clause, and his landlord, having suffered losses in the railway mania, was obliged to let the right of shooting, and the consequence was that in sixteen years he (Mr. Hawkins) lost £2,500 by over-preservation of game. That was a cruel thing. Mr. Corrance, in the letters he wrote to the *Mark Lane Express* and the *Suffolk Chronicle*, talked about the farmers who attended the meeting at which the game laws were discussed, and said they were tainted with Jacobinism, that if they could not get what they wanted out of the landlords, they would claim their occupations as their own property; and those statements were unjust. He did not think Lord Henniker would give the Chamber of Agriculture such a stab as did Mr. Corrance in those letters, one in the *Mark Lane Express* and two in the *Suffolk Chronicle*, upon the motives of those who attended the meeting.

Mr. CORRANCE: I must ask the hon. member if he read the letters?

Mr. HAWKINS: Yes.

Mr. CORRANCE: Because what he says is absolutely contrary to their sense. I must ask all the members to read them.

Mr. HAWKINS said there was the most arrogant assumption in those letters. It was a regular Brutus-like stab to the Society.

THE INSURANCE OF FARM STOCK.

On Thursday, Dec. 8, on the invitation of a committee appointed by the Central Chamber of Agriculture, representatives of the Norwich Union, Sun, Phoenix, Royal Farmers', and Royal Exchange Insurance Companies attended a meeting held at the Salisbury Hotel. Mr. Charles Read, M.P., who occupied the chair, opened the conference by admitting that the Companies had for some time been losing by their farming stock insurances, and that, therefore, they were fully justified in altering their regulations; but whether those determined upon by the Insurance Companies were such as could with justice be enforced in every case was questionable; and that, therefore, the conference had been desired. The Chairman then proceeded to remark on the difference between the value of the produce of a farm immediately after harvest and at subsequent periods; on the inconvenience of having to take out new policies every year; and on fluctuations in value, and inquired whether the value for the purpose of insurance should not be taken on the average between the highest and lowest amounts of the year or on an average of several years. It was answered that practically it would be of no consequence whether the insurance was based on the highest or on an average value of the year; because, if on the average value the rate must necessarily be increased to create a sufficient amount to meet the losses and expenses; that farmers were quite as well qualified as merchants to state the value of their property; that farmers had seldom occasion to arrange their insurances more than once a year, while merchants had to watch the arrival of every ship in which they are interested, and to vary their insurances from day to day to keep themselves protected; that farmers had hitherto been, and are now, much more favourably treated than merchants, because they are only asked to pay on three-fourths of the highest value; while merchants, to be similarly protected, must pay on the whole value. As to taking an average on the produce of several years, it was answered that there was no possibility of satisfactorily ascertaining it, nor of obliging the owner to continue to insure with the same office for more than the current year.

It was asked whether, to avoid the necessity of full valuation in cases of loss, it would not be sufficient that the owner, when proposing his insurance, should give particulars of his land, and declare that the sum on which he proposed to pay premium was equal to the required proportion. To this it was replied that experience had shown that such declarations were frequently untrue; in proof of which a proposal of a Norfolk farmer was alluded to, when, on a valuation to test

the accuracy of his declaration, his property was found to be worth more than £8,000, while he had represented it as not worth more than £3,000, and proposed to pay on only £2,000. It was also stated that notwithstanding such declarations proposals had continually been declined, because the managers of the offices believed the answers could not be true in relation to the land cultivated. The representative of the Norwich Union Office took the opportunity of alluding to a paragraph which had appeared in the newspapers, and had stated that they had informed their agents that in the event of loss they were not to insist on a detailed valuation without special instructions. He said that, in the first place, the agents had nothing to do with the valuation of losses, and that all the office circular had said as to the valuers was that they need not require full particulars when they had good reason to believe the amount on which premiums had been paid was in accordance with the office regulations.

A supposititious case was put, viz., that of wheat being at 40s. per quarter when the insurance was effected and its rising to 80s., which was answered by saying that if the owner was so fortunate as to have the value of his property doubled, he could not reasonably expect to receive the higher price without first compensating the insurers for the increased liability. Allusion was made to the same rate and conditions being applied to scattered property as to that so placed that one fire could destroy the whole. It was replied that the same rate was not charged in every place, that in the fen districts it had often been charged ten shillings and sixpence instead of five shillings per cent., and even at the higher rate many offices would not insure it. Also that in fact those owning scattered risks did pay less, because those whose property was so placed as to be liable to be destroyed by one fire would for their own protection pay on the full instead of on three-fourths of the value; and that scattered risks were very much more exposed to tramps and other mischievous persons than the property at the homestead, which was generally too well watched for them.

In the course of the conference the subject of the ability of the managers of the office to form correct opinions on farming matters was spoken of, on which one of them said he must admit that he knew as little about farming as he did of the many other things which had to be rated, but he added, when particular subjects of hazard had to be considered, those who were thought best qualified to give information were applied to; and in the case of the new farming stock regulations,

he stated that, contrary to all precedent, a gentleman had been introduced at the meeting of managers, as a leading landed proprietor, and a good practical farmer, who had addressed the meeting and had urged the adoption of the regulations ultimately agreed to. Another of the managers, in allusion to complaints about the conditions of average, told the committee that they had always been applied to scattered risks other than farming stock; and in all Europe, except this country, to every single building, or property therein, and that therefore if the owner did not insure for the full value he must bear part of the loss. The alterations lately assented to in relation to root crops, insurance of single stacks, and stock placed in specified buildings, were mentioned, as was the subject of insuring machinery worked by steam, and hops. After some explanations to remove doubts as to what the office regulations really intended, the Chairman took leave of the representatives of the offices, saying he supposed the committee must report that the managers *would not* alter the terms, for which he was requested to substitute *could not*.

THE INSURANCE OF FARM STOCK.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—The communication which appears in Monday's *Mark Lane Express*, on "The Insurance of Farm Stock," contained one or two inaccuracies, which I feel called upon to correct.

In the first place it was I, and not Mr. Chas. Reed (the member for Hackney), who was chairman of the Committee of the Central Chamber of Agriculture. I did not propose that the average between the highest and lowest amounts of the year "should be taken as the basis on which to insure the three-fourths of the value." We admitted that it was fair that the amount of three-fourths of the value of the agricultural produce should be taken directly after harvest; what we asked was that *average crops and average prices* might be taken as a basis, instead of having to make fresh valuations and estimates at least every year. As to what was the average price, the tithe averages which have stood the tests of over thirty years would be the best standard, and if the wheat crop ranged from 3 qrs. to 5, it would be safe to calculate an average crop to be 4 qrs. The Committee considered that if each farmer stated the number of acres of arable and pasture land, his course of cropping, and the amount of his gross assessment to the poor rate, any office could with very little trouble judge if the sum proposed to be insured was sufficient.

The "supposititious case" was put to show that if a farmer effected an insurance at Michaelmas when wheat was low, and markets should rise, to make himself safe he would have to increase his insurance with every advance in the price of wheat; whereas if 7s. per bushel were taken as the standard price he would be paid 5s. or 10s. per bushel according to the market value at the time of a fire. It is idle to compare farming insurances with a merchant's risk. Agriculture runs pretty much in one constant groove from which averages could be fairly and accurately taken without much trouble. A merchant's transactions are so uncertain in time and amount that short policies with proportionately higher premiums may suit his purpose best.

The only point the offices conceded was a promise to *consider* whether they would not grant policies for less than 12 months in the case of hops. Your reporter evidently did not attend the meeting of the Committee with the non-associated Fire Offices, so I will add that although one and all expected that three-fourths of the value of the agricultural produce would be insured, they did not insist on the average clause, and were willing to take average crops and average prices as the basis of such value.

Should the Committee, in compliance with the courteous

request of the representatives of the Tariff Offices, report that the associated gentlemen *could not* alter their terms, it may be my painful duty to explain that they *could not*, simply because they *would not*.

I am, sir, your obedient servant,

CLARE SEWELL READ.

Howingham, Dec. 15th.

[We have referred this letter to the gentleman who favoured us with an account of the proceedings. He says: "Writing from memory only, I may have attributed to the chairman that which was suggested by some other person. As he now says the Committee 'admitted that it was fair that the amount of three-fourths of the value of the agricultural produce should be taken directly after harvest,' it appears to me that the only material question remaining is, whether, when a loss occurs, the valuation should be made on the worth of the property at that time, as is the case with respect to all other property, or on some other basis." Of course the Mr. Charles for Mr. Clare Read, not Reed, was a printer's error.]

THE NORFOLK CHAMBER OF AGRICULTURE.

At the annual meeting of this Chamber held at Norwich, Mr. C. S. Read, M.P., in the chair—

The SECRETARY read the report of the Council. During the past year the Norfolk Chamber had discussed the following subjects: The Best Mode of Providing for the Future Maintenance of Turnpike-roads and Highways, The Present Mode of Collecting Agricultural Statistics, The Best Mode of Providing for the Extension and Maintenance of the Education of the Industrial Classes, The Malt-tax, The Tax on Farm-horses, Local Taxation, The Tax on Guns, The Game-laws and Previous Legislation thereon, and The New Regulations made by Fire Insurance Offices for the Insurance of Farm Stock. The Council reported that a pecuniary loss had resulted to the Chamber through the failure of the late treasurer, Sir R. J. H. Harvey, who had at the time of his death £108 of the moneys of the Chamber in his hands. The Chamber, however, possessed a sum of £250 in Consols. The report and accounts were adopted.

The CHAIRMAN reported the result of a conference held between a committee representing the Associated Chambers of Agriculture and representatives of the chief fire-insurance offices. The result of the meeting had, he said, been substantially made known through the *Mark Lane Express*. The Committee wished to put the case as fairly as they could to the offices, and they stated that three-fourths of the agricultural produce on a farm ought to be insured, but they wished that average prices and average crops should be taken as the basis so that there should be no necessity for a fresh valuation every year. To this the associated offices replied, that they could not by any possibility consent. The Chambers of Agriculture also desired that there should be no question as to amount when a fire took place, but that a full investigation should be made at the time an insurance was effected. Another point put before the fire-insurance offices was, that there should be different rates for different risks, and that it was not fair that Norfolk farmers, who stacked their corn in their fields should be charged at the same rates as some Lincolnshire farmer who stacked his corn all in the homestead. The Committee were, however, told by the fire-insurance offices, that the same rates would apply to all.

Capt. BIGNOLD, on the part of the Norwich Union Office, said there was a distinction made by that office in cases where stacks were set all together, and where they were put in different fields.

The CHAIRMAN said two or three fire insurance offices, which were not combined tariff offices, would not insist upon the average clause.

The CHAIRMAN stated that the Chamber would have a claim against the private estate of the late Sir R. Harvey for the £100 in his hands at the time of his death, but it would have

no claim against the partnership estate of the Norwich Crown Bank. It was impossible to state what the dividend on Sir R. Harvey's estate would be.

The Chairman was elected President of the Chamber for the ensuing year. Delegates to the Central Chamber for 1871 were appointed as follows: The Hon. J. Walpole, M.P., North Norfolk; Mr. C. S. Read, M.P., South Norfolk; Mr. T. Brown, West Norfolk.

On the motion of Mr. H. S. GRIMMER, a memorial was

adopted to the Norfolk Quarter-sessions, soliciting a readjustment of the present mode of assessment, and suggesting that the Government ought to contribute more largely to the rates levied under the authority of the Quarter-sessions.

After some conversation in reference to a proposal about to be submitted to the Norfolk Quarter-sessions for a grant of £105 to Lieut.-Col. Black, Chief Constable of Norfolk, for his services in carrying out the Contagious Diseases (Animals) Act, the Chamber adjourned.

THE MOVEMENT ON BEHALF OF THE FRENCH FARMERS.

"The Agricultural Union of Rhenish Prussia is associated with us as honorary, the Royal Agricultural Society of England has admitted many of our members, and the Minister of Agriculture of Austria has become our colleague. I should never finish my address if I were to enumerate all the legions, home and foreign, who, while preserving their own banners, yet enter upon and unite with us in this peaceful crusade." It was thus that M. Drouyn de Lhuys spoke hopefully and cheerfully in only the Spring of last year in his office as President of the new Society of Agriculturists of France. And there was every reason to warrant the tone here adopted. A series of very successful provincial congresses had been inaugurated; while at the great meeting at Nancy "the proximity of Germany inspired the thought of inviting the agricultural associations across the Rhine to take part; as the appeal was responded to by the presence of intelligent farmers from Prussia, Austria, Bavaria, Wurtemberg, Baden, and Saxony." Immediately following upon this the report to a general meeting of the Royal Agricultural Society of England referred to an invitation from the Council of the Société des Agriculteurs de France, to take part in an international agricultural congress, to be held in Paris, in 1871. In our paper, again, of last week, a correspondence was published, wherein M. Drouyn de Lhuys occupies a prominent position, still, by his signature, as President of the Society of Agriculturists of France. The President, alas! of a Society, which at this moment has little more standing than an empty name; for that peaceful crusade of which its General spoke so encouragingly but a few months since has given way in the face of a more terrible campaign. The Prussian farmers no longer cross the frontier to discuss with their neighbours the cultivation of beet-root or the uses of salt. Those pleasant congresses are already forgotten in the stirring history of half-a-year's war, and the French farmer and the patient cottier see the art which they were cherishing so fondly thrust rudely aside, abandoned and despised.

And once more do Drouyn de Lhuys and the agriculturists of France turn towards England—not to invite her to join with them in the bloody crusade in which they are now engaged, not to suggest any friendly encounter in the way of breeding stock or employing machinery, no longer as rivals but the rather as suppliants. "The scourge which desolates our fields not only exhausts our actual resources, but also threatens to destroy the means of future produce." And upon this hint the English farmer has acted, or, the more to his honour, has anticipated the appeal. The movement to which we referred last week for supplying the small occupiers in France with seed really originated here, for as M. Drouyn de Lhuys writes it, "Mr. James Howard conceived the generous idea of aiding the French cultivators who are the victims of the war." And on Monday we saw this idea promptly acted on; if anything, indeed, perhaps somewhat too promptly. The meeting was called so closely on the heel of the Smithfield Show week that it was not reasonable

to expect to see many agriculturists again in town. Moreover, the notice was of the shortest, many only receiving a summons on one day inviting their attendance on the next, while there was of course no opportunity of making any more general announcement through the agricultural journals. We are not, however, inclined to attach any great weight or significance to the comparative scantiness of the company assembled in the long room at the Salisbury. There was amply sufficient demonstration to show that, in common parlance, the thing would take. In fact, looking either to those who had the conduct of the proceedings or to those who spoke to the resolutions, there was strong evidence as to how thoroughly the several connecting links of English agriculture were represented. We quite concur with the remark of the chairman, Lord Vernon, as to the bad policy of attempting to identify the movement with any particular public body, nevertheless it was easy enough to check off all the leading agricultural institutions, while other great influences like the implement makers, the seed merchants, and the corn dealers, it was also evident would be brought into service.

Of the farmers themselves we have no fear whatever. If the machinery employed be effective without being troublesome, there is little doubt but that almost any amount of seed corn in reason may be obtained. Of course it will be necessary for every man who holds anything like a position as a public man in agriculture to bestir himself over this business. The resolutions of the meeting ask as much, and the credit of the country requires as much. But we had almost said that any such movement amongst farmers should be limited to subscriptions "in kind." Indeed, after the two or three bad years so lately experienced, it would be unfair to ask for more. Men like Mr. Robert Leeds at the meeting may find it a saving of time to write down their names for five guineas there and then, but there are others in a smaller way who would readily find a few bushels of corn though they could not so easily spare the money. An agricultural contemporary has discovered this very recently, the attempt to put about the usual subscription list having resulted in a most unmistakeable failure, although, as we must repeat, we are very sanguine as to any application for corn being cheerfully responded to.

Manifestly "the means" for collection and distribution must be looked for elsewhere—amongst, as we may distinguish them, the monied classes. Lord Vernon heads the list with a subscription of £50, and the landlords of England will follow his example; Mr. James Howard gives £50, and the implement makers will follow his example; Sutton and Sons give £100, and the seedsmen will follow their example; Mr. Albright gives £100, and the corn-merchants will follow his example. And so on, as there is by the early list just published scarcely a collateral interest but which has already made some sign. And we should be almost jealous enough to see the proposal begin and end here. There was some appearance at the meeting of the movement

extending to a general one, but this was never intended, nor is it desirable. There are many other channels through which the public can tender aid to the sufferers from the war; but this is eminently a class manifestation, coming from a class for a class. The English farmers are anxious to assist the French farmers at a time of great

need, and it may be well to wait and see what they will or what they can do. In fact, the agriculturists of this country are put, as it were, to the test of what their sympathy is worth, and they must not disappoint the promise which has been made in their name. It is broached to them as a very duty of this Christmas time.

CALENDAR OF AGRICULTURE.

In northern latitudes, which comprehend the full half of the British isles, this month is the stormiest period of the year; snows lie deep, and frosts are severe with a long continuance. This weather reduces farm labour altogether to the carrying of articles and materials that are wanted for in-door use and in preparations for future purposes, as of stones to drains and roads, of fuel to the households on the farm, and of all kinds of manures. In the end of the month begin to carry the contents of the cattle-yards, to be placed in heaps in the fields intended to be planted with early green crops, as potatoes, beet, and Swedish turnips. Lay the heap in a lane or in a convenient place of the field, near the gateway, on dry and level ground; slope the heaps at both ends, see that the loaded carts can pass upon and over it, and spread the strawy and moist faeces evenly over the space, oblong in shape and about six feet in height, the edges and ends neatly dress, and, when finished, with earth placed over the sides to prevent them drying and blowing about. The heap may be raised at two or three times, and the treading by the carts is intended to prevent the present fermentation of the materials, which is promoted by turning over the heap by hand-forks very carefully ten to fourteen days before being used on the land in May. The fermentation being at that time in full operation, will convey a ready and powerful support to the germination of seeds. Another method raises the heap without treading or pressure beyond one person to spread the materials, on banks of four or five feet in width, extending the width of a heap, that is, nearly square. The loaded carts are run back to this bank, on to which the materials are dragged, and spread thinly and evenly over the extent, and raised to about six feet in height, and the sides and edges neatly dressed. This mode produces an immediate fermentation, which proceeds so long as caloric is evolved by the contents of the mixed articles, and has ceased by the time of the dung being used on the land. In forming the heaps, attention is paid to the mixing of the dry and moist straw and faeces, to produce an equality of manure, and that the whole heap of materials be in a proper condition of moist putrescence from the yards, affording the necessary convenience to procure the equally moistened and mixed state of combination. Opinions differ in respect of the two modes of preparation—of an active fermentation when the seeds are sown, or of a black putrid mass of dung, from which all activity has disappeared. The first may be the quickest, and both may be equally durable, and may be soon superseded by the moveable railway carrying to the field at the time of use the fresh dung from the yards, that has been carefully mixed and moistened, of faeces and straws, cut into short lengths for litter by the steam thrashing machinery. This application will very justly banish all heaping of dung and the already exploded doctrine of fermentation, but it must worm its way, as a corkscrew, through a concreted mass of conceit and prejudice ere it reach an expanse of bottom on which to show a convincing superiority.

Sell and deliver all grains to the merchant; keep short accounts with the granary and the cart ledger.

During the fresh and open weather of the month, general in the southern latitudes, sow wheat on any fallows deferred for any reason from the autumn season; and also on strong turnip loams, cleared by the roots being removed and pulled away, only being consumed on the ground by sheep. This season of sowing wheat, and even a month later, succeeds well in the south of Scotland and in the north of England, but fails in the southern counties, and even in mid Britain, being later in ripening and of an inferior quality from an unknown cause.

Plough the lighter turnip soils for fallow crops, as the loose texture does not require so long an exposure for pulverization. Plough grass lands and stubbles for Lent crops, very favourable during this month, as it affords a time for pulverization before sowing; and it does not, by a lengthened exposure of the land in a ploughed state, reduce it into a hard battered condition. The ploughing of lands for crops and for root fallows must be vigorously pursued and ended with this month. Plough all lands deeply rather than shallow, the width and depth of the furrow being nearly equal. The slice cut by the share and coulter below ground must be thinly formed and raised, and placed by the plough in a strictly vertical position, and pressed into it by the shouldered width of the mould-board. In this position the narrow upright comb affords a fresh alluvium to cover the seed in the seams, and enables the harrow to work its purpose of a dead level surface of fine earth, deep and loosely produced. This object being gained, it matters not what initial letters mark the plough, or if any prize has been gained by an H. or an R.

Continue the cutting of copses and underwoods, the cutting and splashing of hedges, the scouring of ditches and roadsides, and clear watercourses; cut drains to half the depth, to be finished in summer. Float water meadows, and lay dry occasionally.

Plant forest trees of all kinds on farm grounds, as in corners beyond the reach of the plough, in clumps on knolls, and in single standards for scenery, and for rubbing posts in permanent pastures. In all cases erect a sufficient protection in a fence, or post-and-rail. Plant young hedges of thorns, choosing the strongest sets of the nursery, to be cut into lengths of a bud at each end, and placed on a sloped turf of earth on the surface of the ground, in about four inches apart, covered with the best soil with a heap of loose earth placed loosely on top, to hold moisture and to defend from drought. A rail fence must protect the plantation on both sides.

The live stock on the farm of all kinds will demand the breeder's constant attention, in order to rear animals into profit and to derive advantage from his labours, never forgetting the great effects of minute care in increasing the produce of a farm. Supply the cattle in the houses and yards with fresh straw daily, and give turnips or other roots early in the morning, to be consumed during daylight, to prevent accidents being unseen. Turnips are drawn from the field as wanted, but the danger of heavy snows covering them, or rains preventing access to the ground, renders necessary a heap of the

homestead for a few weeks' supply. The yards must be littered very frequently, thinly and evenly.

The milch cows will now begin to drop calves: feed with succulent food, with roots and chaffs steamed. Suckle veal calves, and for weaning also, as it ever produces the most healthy and thriving animals, from the milk passing into the stomach of the animal without exposure, which evaporates the best parts of the fluid in a gaseous form, and hence the superiority at suckling over hand feeding. If any dairy produce be wanted, use a part of the cows for that purpose, and the other for rearing calves. Allow ample food in every case. Have the calf-pens divided into single apartments, of about eight feet by four feet; the floors pierced with anger holes to allow the moisture to escape, with a door opening into the cowshed from the end or from behind, as the width of the shed may admit. Suckle the calves thrice a day, and keep the pens dry, warm, and very clean.

The sheep flocks must have fresh food daily in turnips rooted, but not topped, consumed on grassy or stubble grounds, for the different flocks of ewes, keeping flock, and the fattening division, as arranged after autumn, each purpose requiring a greater or less allowance of food. The lambs of last year on the best allowances and the fattening flocks consuming the green food on the ground, will require a change every two or three days of food and air.

Feed work-horses with cut chaffs of hay, clover, and straws; with oats and beans in a measured quantity. Any warm meal is not recommended for horses, as the exposures to so many weathers in the course of work renders the animal very susceptible of change. The horse is a dry feeder, and chooses the dry produce of plants.

In the piggery feed largely and litter amply. Rear the store pigs in a roomy yard, with shelter sheds, on roots, as potatoes and beet; the fattening hogs that

live in sties, with two animals in each, feed with steamed potatoes mashed and mixed with meals, given in warm portions thrice daily. The pig is the only animal that is benefited by cooked food, and no beast produces the same quantity of flesh on an equal quantity of bones, or from the same quantity and quality of food.

Feed poultry with light grains and with mixed meals, or steamed potatoes, placed in troughs under the shed of the yard, to suit the shovel bills of ducks and geese. The separate apartments for each kind of animals must be kept clean, and the boarded floors being warmed underneath by hot water pipes from the cooking-house, will very much favour the laying of eggs and the hatching of chickens during the cold months of the year.

The thrashing of grains must be regularly done to supply straws for chaffs and litter, with the grains for the special purposes. The flail supplies these articles during all seasons of weather; by machinery, the thrashing will be done at fixed intervals, and largely during hard weather. The straw barn will hold much of the scutched culms, which may also be cut into short lengths by the knives of the machinery, and used for chaffs and litter from the places of deposit. The thatched rick of grain in the morning converted at the close of day into grains dressed for market, and into chaffs and litters, the latter carried and scattered over the cattleyards by the same power that conveys the materials to the machinery, is a performance that well agrees with the steam and rapidity that now propels the force of human thoughts and actions, leaving the flail and its employers to be standing marks of the force of the current by which the rest of the community are borne along. Immoveably moored in one position by the weight of anchor and the strength of cable, the monuments are alike impregnable to reason and argument, though resting on the very powerful supports of the useless expenditure of time and money.

CALENDAR OF GARDENING.

KITCHEN GARDEN.

So uncertain is the weather at this season, that it is impossible to do more than suggest. At all events, they who desire to have lettuces, radishes, and salads early, must be possessed of frames and lights. We do not allude to forcing, but simply to protection—yet this will imply some kind of linings, either of dung, fern, or straw, laid so thick around the box and lights, or brick pits, as to exclude the frost of 20 degrees, which often comes and lasts many days. Every vegetable grown in frames should have air in fine intervals by day; but sashes should be closed every night, and covered, whenever it freezes, with straw mats, the most effectual means of defence that can be constructed.

If the weather and ground be open, the green and white cos lettuce, and the brown Dutch, and also a sprinkling of short-topped radish, can be sown on a warm border—the earth should be free, open, and rich, to promote quick growth, and straw or fern should be at hand to be thrown over the ground during hard nights. Sow radishes twice.

A little horn carrot seed, a drill of round spinach, some mustard and cress, may be sown; but little good will result in general.

Peas and broad beans should be sown at least 2½ or 3 inches deep, in soil enriched in the autumn.

Earth up peas and beans, if any be ready, observing to select the driest weather. Transplant cabbage from the seed beds.

If frosty, protect the frames and cauliflowers under glasses; celery by a couple of boards laid ridgewise, only straw on each side of the ridges. Wheel out manure to be ready for plants, asparagus beds, &c., &c.

FRUIT DEPARTMENT.

Prune very little, unless the buds swell materially: lay manure around the roots of gooseberries, currants, and raspberries: it very much improves the spring growth. Do the same also to fruit trees and espaliers.

If snow abounds it must be shaken clean from all evergreens before the sun shines out, nothing tends so effectually to prevent scalding and other accidents of the foliage. Do nothing in the way of planting flowers, but sow seeds in pans, mark each, and place them in a frame. Much time and labour are economised, and flowers better secured by this method of proceeding.

The digging and trenching of waste grounds is well done during this month, and placed in a rough surface to imbibe the benefits of exposure, and the alternations of rains and snows, frosts and thaws. Moderate frosts will permit this digging, while the severest hardenings of the ground will reduce the operations to the preparation of manure, and the wheeling of articles for that purpose. The compost heaps may be well turned over, and the mixtures of dry and wet materials very carefully attended. A uniformity of quality is much to be attained. Carry small earthy bodies to the dry compost heap, and the more bulky materials to the liquid pit, to be saturated with urinary and soapy liquids, which are imbibed by

earthy bodies, to be conveyed to the soil as an active manure in the best acknowledged form.

The open weather of the month affords very favourable opportunities of planting trees of all kinds in the orchard, in clumps or single standards, shrubs, and fruit-bearing bushes, and all plants that are ligneous and arborescent, and which are propagated by young sets and slips. The choice must be made of healthy plants of medium height and strength; the fibres of the roots must be pruned and cut to a moderate distance from the stem, called root-pruning, which is successfully done with grown trees, and the excavations filled with guano-earth. The incisions of the fibres cause fresh shootings, which are more vigorous than the old threads of the roots. Trees do not require trenching of the ground or the digging of pits; the surface of the ground should be raised by the spade in a depth of six inches in a bed shaped to receive the tree in a bulk, a sprinkling of guano-earth strewed beneath the set, and the earth trod firmly around the stem to hold its position. The surface in a yard around the stem to be covered with

a thick mulch of very moist strawy farm-yard dung, with frequent applications of water, in order to convey downwards the liquid oozings to the roots of the tree. These applications relate wholly to fruit trees and ornamental single standards, that are very much wanted to adorn any landscape, and to form a scenery.

The fruit-bearing shrubs of the garden are planted in manured grounds, and do not need any better conditions; but mulch may, nevertheless, be useful to all fruits, as is shown in the case of raspberries. The covering excludes drought, retains moisture, and sinks a cooling benefit to the roots. All plants show a strong generic affection, and thrive best in congregations of the same kind.

Boxwood in borders and thorns for fences are well planted during this month.

The notices of sowing the seeds of early vegetables can apply only to the most favoured situations of soil and climate, but in all moderate cases the expense is small and the trouble not great, while the possession of early vegetables is both a variety and a luxury.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR DECEMBER.

The past month has, on the whole, been seasonable, especially towards its close. Early in the month the weather was warm, and out-door farm labours were rapidly proceeded with, and agricultural affairs were more forward than usual. Ploughing and sowing were interrupted at one period by the heavy fall of rain, but as a rule these operations had been completed by the close of last month, and it was therefore only in a few late districts that the delay was experienced. The wheat plant in the early southern counties is now fairly above ground, and, so far as can be judged at this early period, is promising in appearance, the plants looking strong and healthy. Root pulling has now been generally completed, and the results have proved to be more satisfactory than was anticipated. This is especially the case with mangolds, swedes, and the heavier roots, the yield of which is but little, if at all, below the average. The greatest falling off is in the turnips, which suffered too heavily by the drought to recover when the rain at length fell. The prospects of feed for the cattle are, therefore, more encouraging than could have been looked for, considering the dry character of the past season.

At Mark-lane prices have been mainly guided by the course of the war, and the market has presented alternately considerable animation or depression. The quotations show but little change on the month, though many fluctuations have taken place, and as we write the tendency of the quotations is in an upward direction. Stocks decreased considerably during November, but the arrivals this month have been large, and the granaries are again well stocked for the time of year. The cold weather has had the usual effect of stimulating the demand for wheat, while the heavy export inquiry, which has continued for some weeks past, has induced holders to be very reticent in parting with the produce in their possession. A large demand on French account appears inevitable as soon as communication with the French ports is practicable, and especially on the fall of Paris. How long the latter may be delayed is involved in great doubt, but a large quantity of cereal produce must be immediately available to supply the pressing wants of the famished inhabitants. Obviously England is now the most convenient entrepôt for grain, owing to the political situation on the Continent and to the difficulty of obtaining remittances from other quarters at the present moment. Accordingly, a large quantity of the cereal produce now on the way and nominally intended for the English market, is really destined for French and other ports. During the month a large number of vessels have been diverted to the French coast, while heavy shipments have been made to Belgium and Holland. This latter movement is the natural result of the war, and is to be attributed to the waste and destruction which invariably follow military operations. The

month opened with an average price for wheat of 52s. 5d. per qr., and closed with an average of 52s. 7d. per qr. Farmers' deliveries of wheat have been fairly extensive, but the quality and condition of the samples have varied with the weather. Most of the parcels exhibited at Mark-lane towards the close of the month were in very indifferent condition, but subsequently some improvement was apparent. The slight decline which has taken place is attributable to this falling-off in quality.

Plentiful supplies of spring corn have come to hand, farmers having thrashed out barley freely. As a rule the quality of the barley has been inferior, and there has been some difficulty in disposing of secondary sorts at the rates quoted, the supply being heavy. Fine malting descriptions, however, being scarce have commanded full rates, though the trade has ruled quiet in sympathy with the inactivity prevalent in the malt trade. There is very little German barley in the market and no French.

Oats sold freely at the opening of the month, and prices were well supported; later on, however, the quotations gave way, but the market subsequently became firm again on the setting in of cold weather.

Maize has been similarly influenced, the market closing firmly with a good consumptive demand. The export inquiry for both maize and oats has been steady, and liberal shipments are looked for so soon as the obstacles to trade are removed.

Beans and peas have been scarce, and the quotations have shown a constant tendency upwards.

Prices of wheat, both in America and on the Continent, are relatively higher than those current here, and shipments at the present moment are, therefore, restricted. The quantity of grain on passage, however, is large for the time of year, and further additions may be looked for as soon as the navigation is re-opened. From the Baltic our receipts have been very small in consequence of the war, and they are likely to continue so as, owing to the draft of the able-bodied population into the army, there is little hope of moving the produce to the ports of shipment. With regard to the American trade it is noticeable that a large proportion of the wheat sent forward from the Western States has been detained on the canals, having been bought up by speculators with the intention of influencing prices in the Eastern markets. This experiment, so utterly opposed to all common sense, has been so frequently tried and has so frequently failed that it is a matter of wonder that it should be practised in. In the end, however, it is sure to defeat itself, as on previous similar occasions.

The hop trade has ruled quiet throughout the month. Supplies have been liberal, the crop this year having proved one of the best on record, both as regards quantity and quality. Prices of fine new English are without material change, but

yearlings have been altogether neglected. Bavarian and American hops have tended downwards in value.

As usual at this period of the year the demand for artificial feeding stuffs has been heavy, and this has been further stimulated by the shortness of the hay crop. It must be observed, however, that the grass lands recovered themselves to a considerable extent towards the close of last month, and presented a favourable appearance late into December. So much so that the cattle were kept out in the fields until an unusually advanced period. Cakes have risen in value, while prices of hay and clover have been well supported.

In the wool trade considerable activity has prevailed, notwithstanding the absence of French and German buyers. The demand has chiefly run on choice qualities, and fine Down hogs have commanded very full prices. It is expected that the trade will rule steady, as the manufacturing trade is likely to be favourably influenced by the war later on.

The metropolitan markets have been well supplied with potatoes which have sold freely at fair quotations. The falling off in the imports has naturally tended to sustain values.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

The feature of the month, so far as the cattle trade has been concerned, has been the holding of the Annual Market for the sale of fat stock for Christmas consumption. Although both in point of numbers and in the quality of the stock, the Show could not be said to equal previous years, it was nevertheless a success, after due allowance has been made for the many drawbacks which presented themselves to the rearing of fat stock during the summer months. It will be remembered that the severe drought which prevailed, soon reduced the pastures and meadow-lands to an arid condition, and resulted in the partial failure of the hay-crop. The root-crops also did not yield so freely as was anticipated; consequently, the supply of food was materially reduced, whilst the price was in a corresponding degree enhanced. The coolness of the weather has imparted a firm tone to the trade, and during Christmas-week the best breeds realised as much as 6s. 4d. per 8lbs.; but the general top figure has not exceeded 6s. per 8lbs.

As regards sheep, the supplies have been tolerably good, and the quality has been improved. Although not active, the trade has been firm, and the best Downs and half-breeds have been disposed of at 6s. 2d. to 6s. 4d. per 8lbs.

Calves, of which a moderate supply has been on sale, have been in fair request, at steady prices; but pigs have sold slowly, at about late rates.

The total imports of foreign stock into London during the month have been as under:

	Head.
Beasts	10,293
Sheep	37,943
Calves	1,709
Pigs	1,943

Total 51,888

Same time in 1869	...	...	...	44,815
" 1868	...	...	...	17,231
" 1867	...	...	...	38,336
" 1866	...	...	...	34,658
" 1865	...	...	...	66,721
" 1864	...	...	...	41,712
" 1863	...	...	...	34,435
" 1862	...	...	...	25,435
" 1861	...	...	...	21,904
" 1860	...	...	...	20,795
" 1859	...	...	...	17,430

The arrivals of beasts from our own grazing districts, as well as from Scotland and Ireland, thus compare with the three previous years:

From—	Dec., 1870.	Dec., 1869.	Dec., 1868.	Dec., 1867.
Lincolnshire, Leicestershire, and Northamptonshire	8,500	7,620	7,845	9,700
Norfolk, Suffolk, Essex, and Cambridgeshire	1,620	1,900	550	2,000
Other parts of England	1,830	2,480	2,330	2,500
Scotland	2,054	1,954	2,190	1,710
Ireland	1,820	2,990	1,292	1,042

The total supplies of stock exhibited and disposed of at the Metropolitan Cattle Market during the month, have been as under:

	Head.
Beasts	26,490
Sheep	93,360
Calves	1,606
Pigs	1,067

COMPARISON OF SUPPLIES.

Dec.,	Beasts.	Sheep.	Calves.	Pigs.
1869	25,689	94,170	1,948	680
1868	17,770	81,780	935	1,070
1867	21,910	92,490	943	1,880
1866	20,750	71,390	1,053	1,950
1865	31,720	126,170	2,823	2,930
1864	23,780	78,410	1,441	2,700
1863	29,302	88,470	1,150	2,680
1862	25,810	85,621	1,354	3,082
1861	24,840	84,630	701	2,950
1860	24,540	82,340	1,577	2,445
1859	24,484	78,989	1,171	2,187
1858	20,523	74,275	1,473	2,450
1857	19,830	67,132	1,209	1,915
1856	23,995	73,200	1,525	2,880

Beasts have sold at from 3s. 6d. to 6s. 4d., sheep 3s. 6d. to 6s. 4d., calves 3s. 8d. to 6s. 2d., and pigs 4s. 4d. to 6s. 4d. per 8 lbs. to sink the offal.

COMPARISON OF PRICES.

	Dec., 1869.	Dec., 1868.
	s. d. s. d.	s. d. s. d.
Beef from	3 4 to 5 10	3 2 to 5 8
Mutton	3 6 to 6 0	3 0 to 5 6
Veal	4 2 to 6 0	3 8 to 5 10
Pork	4 4 to 6 4	3 6 to 4 8
	Dec., 1867.	Dec., 1866.
	s. d. s. d.	s. d. s. d.
Beef from	3 4 to 5 2	3 4 to 5 6
Mutton	3 4 to 5 0	3 8 to 6 4
Veal	4 4 to 5 4	4 2 to 5 10
Pork	3 2 to 4 2	3 6 to 4 6

In the dead meat markets the supplies have been good. The trade has been firmer, and prices have been maintained. Beef sold at from 3s. 4d. to 5s. 4d., mutton 3s. 8d. to 5s. 4d., veal 5s. to 5s. 4d., and pork 3s. 4d. to 5s. 4d. per 8lbs. by the carcase.

THE METROPOLITAN GREAT CHRISTMAS CATTLE MARKET.

The season has certainly not been favourable to the raising of stock, and, taking into consideration the partial failure of the grass lands and the high prices current for artificial feeding stuffs, the show of stock at market this morning was good. The number of Cattle on sale were not large, owing to the restrictions imposed on the foreign trade, and probably the actual weight of meat as compared with the number of Beasts exhibited was under the average of years. The Scotch Beasts, for instance, came to hand freely, there being about 1,200 animals from North Britain; but, though they were well-shaped and in excellent condition, as a rule they were not of extraordinary weight. The prices realized were high, but must be regarded as moderate when the expense attending rearing this year is taken into account; and, even at present rates, it is doubtful if the profits secured by graziers will be large. The prices now current certainly pay, but as a set-off we must bear in mind not only the forced sales compelled by the shortness of grass in the Midland and South Counties, but the ravages caused by disease throughout the country. Our North Country graziers suffered less from the shortness of fodder than we have in the South, for there has been little or no drought in Scotland this year, and this fact was well apparent in the quality and condition of the Beasts exhibited. As a rule, the prolonged mildness of the weather has enabled graziers to keep their stock out in the field until a later period than

usual, but in the south this has been of little avail as the grass has been deficient, and what there was was not of a meat-producing character, being deficient in nutriment. It will be readily understood that the Scotch graziers kept up the reputation at this Monday's market, and as far as quality and purity were concerned carried off the palm. The exceptional circumstances which have this year tended in their favour would have led us to anticipate this. In point of numbers the Shorthorns came first, while cross-bred animals were numerous; but there was a marked falling off in the arrival of Hereford cattle. A few North Devons were exhibited, but we have had very limited arrivals of the breed for some time past.

The foreign arrivals call for little remark. The numbers were small, and consisted of Dutch and Spanish animals. Last year there were some excellent French beasts on sale, but to-day they were conspicuous by their absence. At the waterside there was a good arrival. The Irish beasts call for no especial observation.

The annexed return shows the number of Beasts exhibited, and the prices realised for them on the "Great Days" during the last 29 years.

Year.	Beasts shown.	s.	d.	s.	d.
1841	..... 4,500	.....	8	8 to 5	0
1842	..... 4,541	.....	3	4 to 4	8
1843	..... 4,510	.....	3	8 to 4	4
1844	..... 5,718	.....	4	0 to 4	6
1845	..... 5,826	.....	3	6 to 4	8
1846	..... 4,570	.....	4	0 to 5	8
1847	..... 4,282	.....	3	4 to 4	8
1848	..... 5,942	.....	3	4 to 4	8
1849	..... 5,765	.....	3	4 to 4	6
1850	..... 6,341	.....	3	0 to 3	10
1851	..... 6,108	.....	2	8 to 4	2
1852	..... 6,271	.....	2	8 to 4	0
1853	..... 7,037	.....	3	2 to 4	10
1854	..... 6,181	.....	3	6 to 5	4
1855	..... 7,000	.....	3	8 to 4	2
1856	..... 6,748	.....	3	4 to 5	0
1857	..... 6,856	.....	3	4 to 4	8
1858	..... 6,424	.....	3	4 to 5	0
1859	..... 7,560	.....	3	6 to 5	4
1860	..... 7,860	.....	3	4 to 5	4
1861	..... 8,840	.....	3	4 to 5	0
1862	..... 8,430	.....	3	4 to 5	0
1863	..... 10,370	.....	3	6 to 5	2
1864	..... 7,180	.....	3	8 to 5	8
1865	..... 7,530	.....	3	4 to 5	4
1866	..... 7,840	.....	3	8 to 5	6
1867	..... 8,110	.....	3	4 to 5	0
1868	..... 5,820	.....	3	4 to 5	8
1869	..... 6,728	.....	3	6 to 6	2

The following are the particulars of the best portion of this morning's market:—

At Mr. George Dickson's stand were exhibited nearly 350 Scotch beasts, which, although not heavy, were of very fine quality, and quite up to the average of seasons. The vendors from Aberdeenshire were: Messrs. Knowles, Wishart, Mitchell, Wylie, Beddie, Frost, Bruce, Reid, Lawson, and others. From Banffshire, Messrs. Longmore, Stoddart, Milne, and others. There were also some fine lots from Forfar, Inverness, and other parts.

Messrs. Giblett and Son had for disposal some remarkably fine Scotch beasts, including about 40 the property of Mr. William McCombie, M.P., which sold at an average price of £45 per head. There were also some fine beasts of Messrs. James Martin, Thomas Knowles, Harry Adamson, J. Reid, W. Gordon of Aberdeen, and A. Mennie of Huntly.

At Messrs. Maydwell and Hoyland's stand the best lots were forwarded by Messrs. William Wallace and

George Strachan of Turriff, Lewis Strachan of Olney, James Gordon of Olney Castle, Aberdeen, Phillips of Sonderton, Murray of Tafferty, Reid of Greystone, R. Elmalie, Ingram, and others of Vale of Alford, and J. Stoddart of Banff.

Mr. Vorley's stand was as usual occupied with a good show of animals; whilst at Mr. Thomas Dixon's stand there was a good supply of Beasts from Norfolk, Lincoln, and Leicestershire, in addition to some very fine Oxen forwarded by Thomas Mouser, of Sherborne, Gloucestershire, one of which carried off a prize at the show.

The Sheep pens were filled with some excellent breeds in prime condition. Messrs. Henry Lintott and Sons had for disposal some choice animals from Hertfordshire, Essex, and Surrey, and also some Down wethers, the property of Mr. Hobgen, which carried off the prize at Chichester.

At Mr. Collin's stand there were some prime Downs which realized extreme quotations.

Mr. Dodd had some remarkably good pens of Sheep, including some show Downs; the consignees were Messrs. Lawrence, House, King, and Franklin.

In Mr. Weall's pens there were some fine Downs and half-breds from the counties of Bucks, Herts, Berkshire, and Oxfordshire.

Mr. Stallibrass had some very fine Downs, the property of Lord Braybrook, of Audling End, Saffron Walden. Messrs. Bolton and Son also had some good Downs.

STATE OF THE TRADE.

Influenced by the unfavourable weather and the comparatively long time between this and Christmas, the trade for Beasts opened rather quietly. Nevertheless, the general superior quality of the stock imparted a firm tone to the quotations, and extreme rates were realised, the best Scots and crosses were disposed of at from 5s. 10d. to 6s. 2d. per 8lbs.

From Lincolnshire, Leicestershire, and Northamptonshire we received about 2,100 Shorthorns, &c.; from Norfolk, Suffolk, Essex, and Cambridgeshire 1,620 Scots and crosses; from Scotland 1,200 Scots and crosses; and a fair supply from Ireland.

The show of Sheep was good, both as regards number and condition. Although not active, the trade was firm, and the best Downs and half-breds were disposed of at 6s. to 6s. 4d. per 8lbs.

Calves were firm on former terms. Pigs sold at late rates.

GLOUCESTER CHRISTMAS FAIR was moderately well supplied with stock. The demand was good, especially for beef, which realized from 8d. to 9d. per lb., and in some instances nearly 10d. Mutton was in short supply, but sold freely at from 8d. to 9d. per lb. Bacon pigs sold more cheaply than on last market-day; prices were from 9s. to 10s. per score. Pork from 11s. to 11s. 6d., and all sold.

GRANTHAM FAT STOCK MARKET.—A small show of sheep; trade very brisk, at 8d. to 9d. per lb. Pork 8s. to 8s. 3d. per stone.

LEDBURY FAIR was very thinly attended with stock of every description, which met a dull sale. Cows seemed to change hands, but there was very little little doing in sheep and pigs. Beef 9d., and mutton 8d. to 9d. per lb. Over 350 head of sheep passed under the hammer; fat sheep sold at from 43s. to 63s. 6d.

SHREWSBURY FORTNIGHTLY FAIR.—There was a very small show of stock of every kind. Everything good and fit for the butchers sold well, but there was very little demand for store stock. Good beef found ready sale at from 8d. to 8½d. per lb., inferior selling very much lower. There were very few sheep, good mutton fetching from 8d. to 9d. Pigs were very low, as low in proportion as they have been for some time high. Bacon pigs realized very little more than 6d. per lb.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The month has been characterized by great fluctuations in the weather. It opened very mild and rainy, then came a moderate frost, which gradually increased into intensity everywhere, hardening the ground, and suggesting great severity for the winter; but before the first fortnight was reached, down came the rain in heavy and continuous supplies, with a temperature milder than we sometimes experience in spring, and finally came frost and snow again. The frost was serviceable, as it did not much stop the plough, and greatly facilitated the carting of manure, &c., while it enabled the farmers to thrash out enough wheat for Christmas engagements. But the floods which have since ensued in some low grounds stopped all field labours, and the meadows have been too sodden for the cattle in the fields. A heavy requisition will now be made upon the root crops, and they will be lucky who keep stock without loss. As regards the young wheat, the early-sown is both forward and strong, and the mild temperature will help the vegetation of the late sowings, while those who deferred this work must look for a favourable opportunity in spring. Politics, lately threatening to Great Britain, seem happily settling into calm, neither the state of the Black Sea nor Luxemburg now being likely to bring on a war; but our neighbours the French continue to have it in full, and all Europe begins to say when will this end. There seems as yet but little chance for France; but the Prussians may yet find it more difficult to return than they did in advancing. The wasting of a fine country is a serious matter; and when we learn from a late French official of eminence that 200 square miles have lost the autumn tillage and seed-corn, it is enough to make us fear for the next spring, and still more for the next harvest. Yet the English wheat trade has remained dull. For the first fortnight a rise and subsequent fall of 1s. kept the balance equal; but the oppressive dampness of the last fortnight has brought such damage into the condition, that we must note for the whole month a decline of about 2s. So far as regards English samples, the loss is more apparent than real, for the bulk increases as the weight diminishes; but it has stopped business, and affected the value of granaried foreign nearly as much where no complaint of condition could be made. The approach of the holidays has also doubtless tended this way, for but few like to send their accounts at such a time of the year. There is therefore every probability that for a short period we may keep dull, though all the markets of Europe remain firm, without any symptoms of giving way. When peace comes, as we hope it will shortly, and the damage by war comes to be carefully estimated, we may find a sudden large demand spring up, which will stimulate prices. At New York they have somewhat declined; but the navigation of the canals must soon close, when we shall be left to shipments ex granary till next May, regulated by relative prices, which are now nearly equal, shipping charges and risk included. The following rates were recently quoted at the places named: the best new Zealand wheat at Rotterdam 59s., 61lbs. Danish at Hambro' 58s., Danish wheat from Copenhagen for spring delivery 60s., cost, freight, and insurance; the finest new high-mixed Dantzic 61s., cost, freight, and insurance; wheat at St. Petersburg 45s. 6d., free on board; Ghirka at Odessa 47s. 9d., cost, freight, and insurance, at Taganrog 45s. 6d., cost, freight, and insurance; native wheat at Marianopoli 47s. 6d., cost, freight, and in-

surance; at Valparaiso 52s., cost, freight, and insurance; at San Francisco 56s. 8d., cost, freight, and insurance; old No. 2 Milwaukee 49s. 3d., cost, freight, and insurance, per 480lbs.

Our this month's review commences on 28th November, which could not be included in our last.

The first Monday commenced on small English supplies, though the foreign arrivals were good. The morning's exhibition of samples was the smallest since harvest, yet sales were excessively dull, at 1s. decline, the weather having become very mild and wet. Most of the foreign supplies consisting of American samples, these as well as Russian qualities experienced a like reduction. Though fair arrivals were noted off the coast there was no decline in prices. With the aspects of politics more decidedly pacific, the country advices generally noted symptoms of weakness. Leeds, Lynn, Melton Mowbray, and a few other towns reported a reduction of 1s. to 2s.; more were down 1s.; among these were Spalding, Sleaford, Hull, Ipswich, St. Ives, Gloucester, Gainsborough, and Newcastle; yet Bristol, and some other places, were firm, the show of samples being limited, and on Saturday there were similar reports. Liverpool was down 2d. per cental on Tuesday, but this was recovered on Friday. A decline was prevented at Edinburg by the smallness of the supply; but Glasgow was 6d. to 9d. per boll lower. The Dublin market was dull, both for native and foreign wheat, but there was no quotable change.

On the second Monday the supplies were less both in English and foreign samples. There was but a limited show on the Essex and Kentish stands during the morning, and the weather being changed to cold and dry a better feeling sprung up, and the loss of 1s. on the previous Monday was fully recovered. It was the same with the lower qualities of foreign; but fine Baltic sorts were unaltered in value. Floating cargoes improved fully 1s. per qr. during the week, with a good inquiry. This week the country markets very readily responded to the London advices. Hull, Spalding, Sleaford, Melton Mowbray, Newark, Louth, Rugby, &c., were all 1s. to 2s. dearer. A rise of 1s. was also reported at Birmingham, Bristol, Bury St. Edmund's, Alford, Leeds, Lynn, Gainsborough, Rotherham, Stockton, &c. Some localities, however, were simply firm, and Liverpool only advanced 2d. per cental for the week. Glasgow was 6d. per boll dearer, and Edinburgh reported a rise of 1s. to 2s. per qr. The only feature to be noted at Dublin was great firmness both in native and foreign qualities.

On the third Monday the English supply was moderate, and very little was reported in foreign, excepting from San Francisco, whence a large shipment was made. No great quantity was exhibited this morning on either the Kentish or Essex stands, yet the winterly weather having changed to mild and rainy, which somewhat affected the condition, former prices could only be realized for the few fine and dry samples; the rest could only be sold by making some concession to buyers. Though there had been some activity in foreign on the previous Friday, with an occasional advance, that buoyancy was entirely lost, and only the previous Monday's rates were retained. With few cargoes arrived at the ports of call prices were unaltered. The weather this week being mild and very wet the general condition of samples suffered, and most of the country markets responded to the London advices of Monday, being 1s. per qr. lower, but there were a few

exceptions, some farmers naturally expecting the return of frost and some improvement in the condition of their wheat, others knowing the difficulty of selling and reluctant to make any sacrifice shut up their sample-bags without exhibiting the contents. Liverpool on Tuesday was down 1d. to 2d. per cental, but no positive difference in value was noted. At Edinburgh prices were 1s. lower; Glasgow was unaltered, but dull. At Dublin sales were very slow.

On the fourth Monday there was about an average supply of home-grown wheat, with a good foreign arrival, nearly all from Montreal and New York, in about equal quantities. The show of fresh samples on the Kentish and Essex stands was limited, but the condition was so bad millers would hardly ask the price, though a reduction of 1s. to 2s. would have readily been conceded. The foreign trade also was without any animation at 1s. less, though there were free sales of floating cargoes at full rates. On Friday the 23rd, with a return of frost the market became firm.

The arrivals into London for four weeks were 27,719 quarters English, 82,548 quarters foreign; against 18,174 qrs. English, 161,903 qrs. foreign for the same time last year. The London exports for the same period were 16,816 qrs. wheat, 17,986 cwt. flour. The imports into the United Kingdom for four weeks up to the 10th December were 2,394,688 cwt. wheat, 326,934 cwt. flour; against 3,627,893 cwt. wheat, 448,815 cwt. flour for the same period in 1869. The general averages commenced at 49s. 10d. and closed at 52s. 2d. The London averages began at 54s. 2d. and ended at 55s. 10d.

The flour trade for four weeks has generally been steady, though on the fourth Monday there was a reduction in the value of Norfolks to the extent of 1s., which brought them down to 36s. In foreign sacks there was also a similar reduction, though stocks are not large. Barrels rose on the second market 6d. through an extensive foreign demand, but this was finally lost, leaving prices much the same. Extra State New York being quoted 26s. 2d. cost, freight, and insurance, shows them to be 2d. above London quotations. At New York stocks were estimated at about 350,000 barrels. The imports into London for four weeks were in country sorts 95,802 sacks, foreign 5,896 sacks 58,854 barrels; against 91,991 sacks country, 7,142 sacks 20,361 barrels foreign last year.

In maize there has been a quiet trade through the month, with very little change of value, only a reduction of 6d. being noted on the fourth Monday, bringing the quotations of yellow to 31s. to 32s., and white to 33s. The imports during this period into London were 29,403 qrs., against 42,861 qrs. in 1869. The American crop, which was large, will not be available till after the opening of the canals in May.

Of barley the receipts of British growth have been moderate, and so were the foreign till the fourth Monday, when 21,000 qrs. arrived, this brought the market down fully 6d. for low sorts, and about 1s. for the heavier qualities. English malting barley has been dull, excepting the very finest, which has continued scarce. So heavy indeed is the sale of second-rate sorts, that it is difficult to note their real value. This has arisen from the extremely dull state of the malt trade for a long time past. The arrivals in London for four weeks were 10,350 qrs. British, 81,612 qrs. foreign, against 15,299 qrs. British, 46,180 qrs. foreign, for the same period last year. There appears now no chance for a rally in malting qualities.

The malt trade, as already noted, has been extremely depressed at declining rates, the reduction in the month being 2s. to 3s. per qr. Brewers report they are full, and the demand for beer very slack.

The oat trade has continued to fluctuate with the

weather and foreign demand. It advanced 1s. per qr. when large orders came from Antwerp, though the arrivals were then at their height. When this demand closed, old oats rather gave way, and new were 6d. cheaper. Old Russian, weighing 38 lbs. per bushel, could be had at 22s. 6d. per qr., and 40 lbs. new Swedes at 23s. 6d. Scotch oats have nearly been out of the market, the receipts having only been 195 qrs., and therefore prices quite at a fancy height—say, over 34s. for parcels of extra weight. The rates being moderate for feeding qualities, we do not see much chance of a decline, though Christmas time is always dull. The arrivals during four weeks into London were 3,252 qrs. English, 195 qrs. Scotch, no Irish, 183,817 qrs. foreign, against 5,641 qrs. English, 346,904 qrs. foreign in 1869. So the foreign supplies this year have only been about half what they were then, and from these are to be deducted 26,080 qrs. exported, chiefly to Belgium, it is supposed for the German armies. With a poor crop in France, as well as here, there must be a great want of this grain at the close of the war.

The supplies of English beans have hitherto been fair for a scanty crop, with almost nothing from abroad; but prices have been kept down by the relative cheapness of Indian corn, which is being more largely used. The trade has therefore been dull, without any quotable change of value. Extra fine old small English still bring as much as 54s., though new Mazagans will not bring over 40s. The imports into London were 3,932 qrs. English, 726 qrs. foreign, against 3,323 qrs. English, 10,086 qrs. foreign in 1869.

In peas there has scarcely been any change, inferior old white going off for feeding purposes at 86s. per qr., while white English boilers of first quality are worth 42s., and maples have even brought 46s. in retail from their scarcity; duns being worth 38s. The imports into London for four weeks were 2,888 qrs. English, 4,697 qrs. foreign, against 2,882 qrs. English, 10,527 qrs. foreign in 1869.

With good supplies of linseed from India, prices have given way about 1s. per qr., the imports being 78,543 qrs., against 46,704 qrs. last year.

The seed trade has kept its firmness, with now and then a speculative inquiry for red cloverseed. Fine new English is quoted as high as 86s., and white at 80s. per qr. Spring tares are now coming to hand, but the demand has not commenced yet.

COMPARATIVE AVERAGES.									
WHEAT.			BARLEY.			OATS.			
Years.	Qrs.	s. d.	Qrs.	s. d.	Qrs.	s. d.	Qrs.	s. d.	
1866...	58,431	59 5	62,899	44 4	7,273	25 11			
1867...	56,721	66 9	82,692	41 2	8,777	24 4			
1868...	60,383	49 5	65,158	45 3	4,830	27 7			
1869...	49,868	43 10	81,099	36 0	3,539	23 3			
1870...	84,196	52 5	78,040	36 4	5,476	23 4			

AVERAGES					
FOR THE PAST SIX WEEKS:			Wheat.	Barley.	Oats.
			s. d.	s. d.	s. d.
Nov. 12, 1870.....			50 5	36 11	23 9
Nov. 19, 1870.....			49 10	36 8	23 11
Nov. 26, 1870.....			50 5	36 2	23 7
Dec. 3, 1870.....			52 5	36 1	23 10
Dec. 10, 1870.....			52 2	35 9	23 7
Dec. 17, 1870.....			52 5	35 4	23 4
Aggregate of the above ...			51 3	36 2	23 8
The same week in 1869.....			43 10	36 0	23 3

POTATO MARKETS.	
Yorkshire Regents	70s. to 80s.
Lincolnshire do.	65s. to 75s.
Dunbar and East Lothian do.	75s. to 80s.
Perth, Forfar, and Fife do.	65s. to 70s.
Kent and Essex do.	55s. to 65s.
Do. do. do. Rocks	55s. to 60s.

PLATE III.

A SHORTHORN STEER.

THE PROPERTY OF MR. THOMAS PULVER, OF BROUGHTON, KETTERING.

This steer, bred by Mr. Pulver in the spring of 1867, was by Biddingham (21277), out of Beauty, by Brighton (25672), a cow not to be traced in the *Herd Book*. Brighton was a son of Bagshaw's Windsor (23225), out of Princess Alice by Pompey (10622).

Biddenham, the sire of the champion steer, a roan bull, bred by Sir W. de Capell Brooke, passed into the possession of Mr. Pulver. He was by Lord Stanley Spencer (20229), out of Ruth 2nd by Hero of Kars (19956), her dam Ruth by Habeas Corpus (10294). Lord Stanley Spencer was bred by Mr. Charles Howard, at Biddenham, and hence the title of his son.

The following is a complete list of the prizes taken by this steer :

1868.—Third prize at Oakham ...	...	£4	0	0
1869.—Second at Northampton ...	...	5	0	0
Second at Ashby-de-la-Zouch ...	...	5	0	0
First at Lincoln ...	...	10	0	0
Second at Oakham ...	...	5	0	0
First at Leeds ...	...	10	0	0
1870.—First at Royston ...	...	5	0	0
First at Peterboro' ...	...	10	0	0
First at Hinckley ...	...	10	0	0
And Cup for best beast ...	...	5	0	0
First at Wellingboro' ...	...	10	0	0
And Hope's Cup ...	...	5	0	0
First at Oakham ...	...	15	0	0
Extra Uppingham School Cup ...	...	25	0	0
Silver medal ...	...	3	0	0
First at Birmingham ...	...	15	0	0
President's Cup ...	...	25	0	0
Hotel-keepers' Plate ...	...	25	5	0
Lord Aylesford's for best Shorthorn ...	...	15	0	0
Gold Medal for best ox ...	...	20	0	0
Extra for best Shorthorn ...	...	20	0	0
Silver medal for breeder ...	...	3	0	0
First at Smithfield Club (extra stock) ...	...	10	0	0
Champion Plate ...	...	100	0	0
Silver medal ...	...	3	0	0
		364	5	0
Sold to Mr. Sheepway, of Gloucester, for .		100	0	0
		£464	5	0

It was thus that we wrote of this steer immediately after the last Birmingham meeting: "At the Oakham show in 1869, Mr. Pulver, a yeoman of Broughton, near Kettering, showed a Shorthorn steer, by Biddenham, a bull from Mr. Charles Howard's Spencer tribe, but bred by Sir W. de Brooke, that took a second prize in an All-England class to Mr. Roland Wood's Little Wonder, the best beast in the show. Young Biddenham then came on to the Smithfield Club Meeting, where in the certainly 'crack' class he was only highly commended; Lord Aylesford's steer, the best animal of his year, being first, Mr. Wood's Little Wonder second, and a steer of Lord Penrhyn's third. Still one of the judges said, 'if kept on for another year, this very stylish steer will be sure to command a foremost place.' Mr. Pulver thence travelled his beast on to Leeds, where he won in his class, but never was in it when the judges came to find the best animal in the yard. During the past summer and autumn he took invariably first prizes for fat stock at Peterborough, Royston, Hinckley, and Wellingborough; as at Oakham, again, he was not only the first of his class, but the best beast in the show. He had thus 'run through' many of the animals he met in his own class at Birmingham. It will be so gathered that if there were any great merit in Mr. Pulver's ox, he could have no difficulty in his path so far. And he has indisputably great merit in many ways. He is a smart rich roan in colour; he is a compact square rather than an overwhelming animal; he has fed so well that his flesh does not seem to encumber him as it does many a fat beast, but he has a cheerful look and gay carriage, as it is not until you see him out that he moves after a somewhat awkward ungainly fashion. He has an especially good forehead, is well ribbed up, and straight and square in his outline, but bad in his purse, having suffered terribly from castration, and standing rather weak from behind." The live weight of the steer as given in the Smithfield Club catalogue was 20cwt. 3qrs. 14lb., and his dead weight

815st. 5lb. of 8lb. to the stone. He died remarkably well, of a very good colour, and Mr. Pulver, as chairman of the ordinary, put a 64lb. piece of him on the market table at Kettering, of which forty-six partook, with an ample allowance of lean meat to give everyone "a taste."

On the Champion Plate being presented to him at the general meeting of the Smithfield Club, Mr. Pulver said: "It was now twenty years since he first appeared as an exhibitor at the Club Show, and when he did so he was unsuccessful, although he obtained a commendation. Some of his friends then told him that it was useless for him to show in the same class with noblemen and gentlemen, the length of whose purses made them more than a match for his skill and perseverance. However, in spite of this counsel he resolved to persevere, and subsequently he had taken a great number of prizes, alike first, second, and

third, as well as received some commendations; and he did not cease his exertions until he had carried away the first honours of the yard. He ventured to say that his ox had made more money than any ox in England before; for he had taken 23 first prizes, two second, and one third, the total amount of which was more than £360. When he had done exhibiting, too, he should receive £100 for him. Next week he would go to Leeds, and if liked there, he anticipated that he should win 50 guineas more. That he thought would be making more money than any other animal had every done."

The steer could not go on to Leeds in consequence of the outbreak of Foot-and-Mouth disease in the Agricultural Hall, but he was as well as ever when he reached Gloucester, where he was shown to some thousands of people, and sold at a shilling a pound.

PLATE IV.

HAWTHORNDEN; A THOROUGH-BRED COLT.

THE PROPERTY OF MR. T. V. MORGAN, OF CHELSEA.

Hawthornden, bred by Mr. G. Healeop in 1867, is by Lord Clifden out of Bonny Blink, by the Flying Dutchman, her dam Prairie Bird, by Touchstone—Zillah, by Reveller—Morisco, by Morisco—Waltz, by Election—Penelope, by Trumpator—Prunella, by Highflyer.

Lord Clifden, bred by Mr. J. A. Hind in 1860, is by Newminster out of The Slave, by Melbourne, her dam Volley, by Voltaire—Martha Lynn, by Mulatto—Leda, by Filho da Puta—Treasure, by Camillus. After winning the Woodcote at Epsom as a two-year-old, Lord Clifden was sold twice within the week, first to Captain Christie for £4,000, and then to Lord St. Vincent for 5,000 gs. In his lordship's colours he won the St. Leger, as many to this day maintain he also did the Derby, although the judge gave it a head against him. He was in work one of the very handsomest or grandest horses we ever saw, the ideal of excellence and symmetry, and perhaps at all points, on the day, the most magnificent Derby favourite that a crowd ever followed, as he is said to have still further improved in his appearance since taken out of work. Lord Clifden went to the stud in 1866, when he stood at Mr. G. H. Thompson's Moorland farm at Skelton, near York, where he remained until the close of this last season, when he was sold to Mr. Gee, and is now located at Wadhurst, in Sussex. Lord Clifden's stock consequently came out as two-year-olds in 1869, when he was credited with the following winners: Catalonia, First Lord, Fleu d'Oranger, Malaria, Rosalie, Sophie, and Hawthornden, while a son of his won one of the great three-year-old races in the first season it was possible for one of them to do so. Amongst his further winners are Moorlands, Herod, The Bee, Lady Scarlet, Rebecca, Bare-

foot, Chick, Heirloom, Piccadilly, Ainsty, Ringwood, and Hohenlieden.

Bonny Blink, bred by Mr. R. Wright in 1857, never ran, but was sold as a two-year-old to Mr. Healeop, a Durham farmer, who put her to the stud in the following season with this as the return: in 1862, Governor, by Mildew; 1863, Marshal Ney, by Arthur Welleley; 1864, The General, by Arthur Welleley; 1865, Catton, by Mildew; 1866, Luna, by Camerino; 1867, Hawthornden, by Lord Clifden; 1868, Herminie, by Camerino; 1870, a filly, by Costa, when the mare was again put to Lord Clifden, from the merits of Hawthornden having got about.

Hawthornden is a blood bay horse, standing rather over fifteen hands three inches high. He has a good long head, a strong neck, with his shoulders somewhat upright and thick at the point. He is good in his girth, but not particularly so in his middle or back. He has muscular quarters, well let down to powerful hocks, and has plenty of bone, but he stands a little back in his knees. Hawthornden is altogether a horse of some character, having of late much improved in his appearance, but he is still very easily picked to pieces.

Hawthornden, first called Blue Light, was sold as a yearling to Mr. Heene, for 250 gs.; but in consequence of ill health Mr. Heene's stud was sold at Tattersall's on the Thursday before the Derby of 1870, when Hawthornden was knocked down, under Lord Exeter's conditions, to Mr. T. V. Morgan for 900 gs., and his half-sister Herminie to the same purchaser for 800 gs. The colt was transferred from Jones' stable, at Compton, to Joseph Dawson, at Newmarket.

Hawthorne.
London: Published by Rogerson & Worsfold, 265 Strand, B.C.

There has been a deal of idle talk as to why Hawthornden was occasionally beaten here and there before Doncaster, but his general performances can make him at best but a moderate horse; and his winning the St. Leger now reads very like one of those inexplicable flukes asso-

ciated with the results of some of the great races. Beyond his doings on the turf and with steeple-chase horses, Mr. Morgan is known in the City as the managing partner of some plumbago works, somewhere about Battersea.

TOP-DRESSINGS FOR WHEAT.

BY CUTHBERT W. JOHNSON, F.R.S.

The improvement of the produce of our soil is a theme which will well repay our repeated examination. And here, again, we are cheered on by the good results of observing Nature's modes of improving her soils, and availing ourselves of her suggestions. When the early cultivators of our island noticed the fertilizing results of the deposit of earthy matters on their pastures by the floodwaters, they were led to employ marl and clay as dressings for their lighter soils. Chalk-pits, which are of the period of the Roman occupation, still exist in Sussex. Other operations of dame Nature, of great importance, have only in recent times been discovered; thus, in the rain, the snow, and even in dew, we are now aware that minute quantities of ammonia, nitric acid, and also phosphoric acid descend upon our soils.

When the great Lincolnshire and Cheshire farmers first employed so successfully crushed bones for their wet-crops and their pastures, they had no suspicion that the heavens had been in all times fertilizing their land by a similar application: neither did those who first used the nitrates of potash and soda, or the ammonia in Peruvian guano, know that they were only imitating the waters which fell on their soils from the clouds. And yet, as such is the case, it ought to render us ever watchful of the suggestions vouchsafed to us on every farm, and ever to conclude that we have exhausted all the profitable readings in dame Nature's book.

That the top-dressings not applied by man are sufficient to keep the soil from becoming utterly unproductive of a crop of wheat, has been long known—and as on some soils to a very remarkable extent. And now, as in the case of Jethro Tull, and Smith of Lotham, conclusions have been arrived at, of far too universal application. In the case of those valuable experiments carried on by Mr. Smith, and by Messrs. Lawes and Gilbert at Rothamsted, very useful results were obtained. In those cases wheat was grown, year by year, on the same unmanured land. And it will be well if we refresh our memories by referring to their report of these facts we examine the results of some other still more recent trials on top-dressing wheat.

There is, however, a primary question of great importance to be considered before we proceed in our examination, viz., whether we have any reason to conclude that the produce of our wheat crops has approached the limits which the land can yield no more seed. Now, we may all cheer ourselves on by remembering that, from the time of the Tudors, the average produce of our wheat has gradually increased from perhaps 10 or 12 bushels per acre to 28 or 29; and, moreover, the possibility of the land sustaining far larger crops of wheat than has yet yielded by our best-cultivated farms, has been

proved by many extraordinary exceptional crops, and of these perhaps the most remarkable was that grown in the year 1844, at Haisborough, in Norfolk, on a field of 5½ acres, about half a mile from the sea. It yielded of Spalding's wheat 11 quarters 2 bushels per acre. Of the cause of this, and other recorded great crops, we have not any information; but, whatever may be our present want of knowledge, that is not a reason that we should conclude that by no future discoveries we can hope to attain to a far greater average produce of wheat than any that we have yet accomplished. That it is most important that our produce should be increased, needs no argument—the fact that, in the sixteen years between 1852 and 1868 one-third of the corn consumed in our islands was of foreign growth, is alone sufficient to show how desirable it is to increase our home-growth of wheat. The following table, constructed by Messrs. Lawes and Gilbert, furnishes the estimated quantity of wheat available per head of the population within each harvest year (Sept. 1st to August 31st):

Years.	ENGLAND AND WALES.		
	Total per head, bushels.	From home produce.	Per Cent. From Imports.
1852-3	5.7	68	32
1853-4	5.8	64	36
1854-5	6.8	91	9
1855-6	5.3	87	13
1856-7	5.7	79	21
1857-8	7.5	76	24
1858-9	6.3	82	18
1859-60	5.0	82	18
1860-1	6.3	52	48
1861-2	6.4	61	39
1862-3	7.1	65	35
1863-4	7.6	78	22
1864-5	6.4	83	17
1865-6	6.1	72	28
1866-7	5.4	65	35
1867-8	5.1	55	45
Mean.....	6.1	73	27

Having thus glanced at what our soil can produce, and the need we have of an enlarged home produce, let us next examine what a soil can unmanured, continuously, yield.

In the Rothamsted experiments, wheat was grown for more than twenty years on a soil which the authors describe as fair average wheat land. But—as the rental of similar land in the immediate locality ranges and has ranged for many years past only from 25s. to 30s. per acre, tithe-free, and its wheat crop under the ordinary management of the district, certainly does not average more than 25 to 27 bushels per acre—it is obvious that in a practical point of view, it can lay no claim to extraordinary fertility or to be ranked on a higher level than a large proportion of the soils on which wheat is grown, with a moderate degree of success, under a system of rotation and home manuring. It was on such a soil that, with

only the aid of the unmanured earth and that of the substances falling upon it from the heavens, crops of wheat were grown for twenty successive years ; the land in each year yielding a crop whose amount will be found in the following table. In this tabular statement, the first column gives the season, and the second column the total amount of corn produced per acre.

Years.	Lbs.	Years.	Lbs.
1844	923	1854	1,359
1845	1,441	1855	1,072
1846	1,207	1856	892
1847	1,123	1857	1,236
1848	952	1858	1,141
1849	1,229	1859	1,031
1850	1,002	1860	738
1851	1,093	1861	736
1852	860	1862	996
1853	359	1863	1,127

Here then we have a considerable answer to a very important question, viz., to what extent of produce can the soil yield a crop of wheat, and of wheat only for many years, unmanured? We have already noted that in small proportions, nitrogen in ammonia, and in nitric acid, is supplied from the atmosphere. In the experiments instituted at Cirencester other important questions were put to dame Nature, relating to the effect of an artificial addition of nitrogen to the wheat crop in the shape of nitrate of soda, either by itself or united with superphosphate of lime. These important researches are thus described :—

These experiments were restricted to superphosphate and nitrate of soda. 1st, separate; 2nd, combined; 3rd, applied in winter; 4th, applied in spring. Simple as these experiments may appear, the following list will show that they entailed a formidable series of plots :

Two plots dressed at the rate of 3 cwt. per acre of superphosphate, and 1½ cwt. of nitrate of soda, applied together in winter.

Two plots dressed at the rate of 3 cwt. of superphosphate, and 1½ cwt. of nitrate of soda, applied together in spring.

Two plots dressed with 3 cwt. of superphosphate in winter, and 1½ cwt. of nitrate of soda in spring.

Two plots dressed with 1½ cwt. of nitrate of soda in spring.

Two plots dressed with 1½ cwt. of nitrate of soda, applied in two equal portions, the last dressing distributed one month after the first.

Two unmanured plots for comparison.

Several plots on the College Experimental Farm were, in addition to the above, dressed with similar applications, double the amounts per acre being employed. In these experiments the following questions were put to the soil :

First, what is the measureable effect of nitrate of soda in increasing the wheat crop ?

Second, what increase is obtained by supplementing a dressing of nitrate of soda with superphosphate ?

Third, how does the period of application affect the result of a certain dressing ?

Fourth, may nitrate of soda be applied at two periods, instead of at once, with advantage ?

Fifth, is a heavy dressing, say of 3 cwt. of nitrate of soda, more effective than a dressing of 1½ cwt. ?

These questions, to some extent, have been answered, in some cases clearly and definitely, in others with more or less uncertainty. Even the most definite answers must only be looked upon as correct for a particular soil and season, and therefore a repetition of some, if not all, the experiments is desirable.

The following experiments upon the application of nitrate of soda to wheat, 1869, were at the Royal Agricultural College at Cirencester :

Applied.	Amount per acre.	Total grain per acre.	Increase per acre.	Average increase.	
	lbs.	lbs.	lbs.	lbs.	
March 25.....	} 336	2490	970	} 863.3	
May 1					
March 25.....	336	2090	570	} 1060	
March 24.....	336	2570			
March 24.....	} 336	...	...	} ...
May 1					
March 24.....	168	1800	280	} 423.3	
March 25.....	} 168	1990	470		
May 1				} 520	
March 24.....	168	2040			
...	...	1640	} 1520=average of three unmanured plots.		
...	...	1560			
...	...	1360			

The next series of experiments upon applications of manure to wheat, 1869, were by Mr. Smith of Bibury :

	Applied.	Quantity of manure per acre.	Grain per acre.	Increase per acre.	Straw per acre.
		lbs.	lbs.	lbs.	lbs.
Nitrate of soda	April	80	3280	190	4440
ditto	April 10 ...	} 168	3280	590	4580
ditto	May 10 ...				
ditto	April	168	3200	440	4190
ditto	April	168	3200	440	4440
Unmanured ...	...	...	2760	...	3500
Superphosphate	...	336	} 3740	980	5900
Nitrate of soda	...	168			
Superphosphate	January ...	336	} 4060	1300	6160
Nitrate of soda	...	168			
Superphosphate	...	336	} 3220	460	4740
Nitrate of soda	...	168			
Superphosphate	...	336	} 3500	740	5420
Nitrate of soda	...	168			

Then we have the following results of the trials in 1869 upon wheat, by Mr. Ruck, of Braydon Manor Farm :

Plots (1-20th acre each).	Date of application.	Quantity of manure used per acre.	Weight of grain per acre.
		lbs.	lbs.
Nitrate of soda (applied at twice)	{ Apr. 13 May 13	} 168	2400
			2520
Nitrate of soda (applied at twice)	{ Apr. 13 May 13	} 168	2460
			2580
Nitrate of soda	Apr. 13	168	
Nitrate of soda	Apr. 13	168	
Lawes' superphosphate	Feb. 23	336	} 2340
Nitrate of soda	Feb. 23	168	
Lawes' superphosphate	Feb. 23	336	} 2700
Nitrate of soda	Feb. 23	168	
Lawes' superphosphate	Feb. 23	336	} 2720
Nitrate of soda	Apr. 13	168	
Lawes' superphosphate	Feb. 23	336	} 2600
Nitrate of soda	Apr. 13	168	
Lawes' superphosphate	Apr. 13	336	} 2620
Nitrate of soda	Apr. 13	168	
Lawes' superphosphate	Apr. 13	336	} 3360
Nitrate of soda	Apr. 13	168	
Nothing... ..	...	...	2200
ditto ... ..	...	...	2290
ditto ... ..	...	...	2160
ditto ... ..	...	...	2060
ditto ... ..	...	...	2120

The next tabular statement gives the result of other valuable experiments on the application of superphosphate and nitrate of soda to wheat, 1869, at the Royal Agricultural College :

Dressings per acre.	Applied	Total grain per acre.	Increase per acre.
Mineral superphosphates, 680lbs. } Nitrate of soda, 336lbs.	Jan. 11	1820	300
Mineral superphosphates, 680lbs.... Nitrate of soda, 336lbs.	Jan. 11 } Mar. 25	2420	900
Mineral superphosphates, 680lbs.... Nitrate of soda, 336lbs.	Mar. 25 } Mar. 25	2550	1030
Mineral superphosphates, 680lbs.... Nitrate of soda, 336lbs.	Mar. 25 } Mar. 25	2490	970
Mineral superphosphates, 340lbs.... Nitrate of soda, 168lbs.	Mar. 25 } Mar. 25	2220	700
Mineral superphosphates, 340lbs.... Nitrate of soda, 168lbs.	Mar. 25 } Mar. 25	1925	405
Nothing .....	...	1640	1520 *
ditto .....	...	1560	
ditto .....	...	1360	

* Average of three unmanured plots.

Another very important branch of our inquiry relating to the wheat crop is the comparative productiveness of different varieties of seed. The Highland Society of Scotland not long since directed their attention to this question, and they awarded premiums for different reports of several laboriously-conducted experiments—the first to Mr. R. J. Thomson, of Kilmarnock. In his trials in 1864 and 1865 the produce per acre was as follows :

	1864. Qr. bu. lbs.	1865. Qrs. bu. lbs.
Hopetown	4 2 5	8 0 11
Woolley Ear	4 5 0	8 2 4
Fenton	4 4 40	9 0 39
Hunter	4 2 0	7 5 51

The second premium was awarded to Mr. P. Turnbull, of Dunbar (*ibid.*, p. 352), for his experiments in the years 1864 and '65. The produce he obtained per acre of good grain in these years was—

	1864. Qr. bu. pk.	1865. Qr. bu.
Hunter	3 6 2	5 3
Hopetown	4 0 1	4 5
Shirreff	4 5 2	4 3
Fenton	4 7 1	5 0

The third premium was given to Mr. J. Richardson, of Preston Kirk, in East Lothian, for his trials in 1864 and 1865. The produce he obtained per acre of good grain, in bushels and lbs., was as follows :

	1864. Bu. lbs.	1865. Bn. lbs.
Mungoswell	38 25	33 21
Hopetown	34 61	35 34
Hunter	34 60	37 19
Fenton	38 61	39 36

The very different amount of seed obtained in these trials, from three or four varieties of wheat, will not escape the reader's attention. There is no reason, indeed, to doubt that much is to be profitably accomplished by selecting seed better adapted to the soil and climate of a district than has hitherto been deemed probable, and the same remark will well apply to the other branches of the inquiry to which I have in this paper briefly alluded ; indeed, whoever will only steadily study in Nature's book will be pretty certainly rewarded by valuable readings which time will, in all reasonable certainty, never exhaust.

“OVER MY PIPE.”

I've been roaming, I've been roaming where the meadow grass is sweet ;
And I'm coming, and I'm coming with the dew upon my feet !

This means, under exceedingly strong metaphorical language, that I went down upon the occurrence of the thaw to inspect the condition of our river bank, and to note what effect the drifting ice might have upon the protective piers, the history of which I have in these columns gradually detailed. They have now been proved to be such a thorough success that I have the greatest satisfaction in explaining minutely, for the benefit and guidance of those amongst your readers who may desire to save a swiftly-wasting bank from the undermining action of an insidious stream, not only the several points in which our plan has answered, but also the weak points that we have had to mend. In the first instance, every river-wise person that we met or spoke to when our project was in embryo said that what we had to do to save the bank was to plant “sallies”—that is, willow cuttings—along it, mentioning several instances of very successfully encouraged accumulation at several turns of the river. They always overlooked the fact that in each of these cases the gathering took place upon the slack, not the current side of the stream. There where the weaker water rested it was only too glad to have anything, stick or stone, to cling by or lean against, and let the mud drain out of its shoes. But upon the other side where the stream was wearing against its earthen barrier (as

you may see a hungry, poaching old sow go trying with her snout along the lowermost rail of the prohibitive fence) planted bushes could serve no earthly purpose, save as a buffet for the river's boxing powers, like the stuffed sack upon which the ambitious prize-fighter at once burnishes his skill and builds up muscle. The sack of course gradually suffers, and would gladly I dare say if it could “hide its diminished head ;” and, to pursue the figure even further, as upon the day of real battle the human antagonist hammered about the head gets shaky about the feet, similarly do thick shrubs suffer when subjected continually to the buffeting of the old river god ; they ultimately give way and tumble over, breaking up from its solidity too the bed on which they stood, and exposing it in fragmentary shape to the force of the invading torrent, which moreover, as the too greedy school-boy, impatiently chews as well as sucks his plum. “I once tried the plan,” one informant said, “and it answered splendidly until one tremendous flood came and swallowed up the whole concern.” What was this but the well-known experience of the ingenious and economical old gentleman who by help of green spectacles had just succeeded in inducing his faithful Dobbin to feed on shavings and fancy it was grass, when the gentle creature died ! The fact is no greater mistake could be made than keep-

ing a plantation on the bank you want to save, in the fond hope that its roots will keep the soil together. The ungrateful little assemblage do nothing of the sort; rather they are in a continual fret to get free, which the savage river by its worrying ultimately helps them to do. The only place in which our piers have failed to "fulfil the promise of their youth" is where the roots and about a foot of the upstanding stem, with its attaching tresses, was left uncleared at the base of the slope; but I am thankful that it was overlooked, for it has taught us an excellent lesson. The "exception proves the rule" is a proverb which is herein borne out.

Gradually we watched the waters burrow round its holding (we were always intending to remove it, but either the boat was not ready when we wanted it or the bill-hook, and so it never got removed, and is now hanging wearily—we can see it in the deep water—waiting until the sinking of the flood shall enable us to sever its surviving claw), and finally a solid mass of the bank, after the old fashion, slipped in to fill the hole. In all other respects, as without exception the most prejudiced have confessed on paying them a visit of inspection, these protective fences have answered admirably. Within them it is surprising what a quantity silts up with every flood—a process which will obviously continue until the accumulation is level with the slope of the piers, and forms one gradual turfed incline, right into the heart of what were before building the deep waters of a salmon pool. Then shall the assailing stream slip over them without let or damage.

I had been long since persuaded of their general exceeding merit, but it has only been during the recent thaw that we have had the structure tested to the uttermost. There has not been such a frost hereabouts for ten years it is said, and when once the ice-locked waters began to move it was a sight to see. For hours, for days and nights, with a seething sloppy sound in one continuous flow the broken-up masses of snow-covered ice continued to move on as it were to the distant looker-on a long band of frosted bridal cake. Past the extremities of our piers the current kept its sweep, and block after block, fragment after fragment, went drifting swiftly by, one just catching the other as it came too near what our young school-boys call "a gentle kick." Sometimes, when there was an obstacle and a stoppage lower down, the bigger members of the shoal dipped under and threw up in affrighted altitude some weaker neighbour right on end, or crushed it within the boiling mass. Still safely and surely they had been shunted off the pier point, until all of a sudden I saw one big stone upon its lower surface tremble. Then taking mean advantage of its fright, under influence of which it had staggered too near the swift outside stream, a young thickset ice-block, about a yard across and a foot deep, hit it something like a blow beneath the ear, which a second ice youngster following up knocked the stone right into the seething abyss. This was not much after all, and so long as its surviving brother pebbles kept a judicious down-charge, as did the Duke's guards at Waterloo, there was no fear of further damage. It was only when a fellow funk and peeped to have a look that he received the retributive blow. The greater masses went contemptuously by, as if in impotent anger, until all of a sudden one monster, taking a dive and thereby mounting upon its back another equally mighty, was enabled maliciously to get a sweep of the shore above the surface of the water, and came thump against our projection, making the whole bank tremble: an alarming effect which was immediately followed up by another triangular block being similarly mounted and brought point on against our precious handywork, this time picking out a boulder which it all but dislodged.

Then another, but I did not dare to wait any longer, as I was powerless to help.

Second period. Having finished one pipe, I took a stroll to see the children skating upon a frozen overflow by the river, and then went, somewhat nervously I am bound to confess, to see what effect the icebergs had finally had upon my jetties. It has been undoubtedly disastrous. Off two at least a foot in height has been knocked off, but not out of reach, and the damage can be easily repaired. From the observations I have taken it is essential that, as soon as fine weather affords the opportunity, the facing next the current should be built with mortar, or else be protected in front by a fence of stakes. At least there should be one stout post at the end to act as buffer against the recurrence of such drifting sledge-hammers. On this subject no more to be said by me, and I trust little to learn. There has been a glorious drift of sand and pebbles within each one of them. Having finished this survey, I went to the homestead to see how the cattle tied up for fattening thrive. It is the only part of the agricultural business that I don't care particularly about, and with respect to which consequently I am perpetually obliged to consult the rules of others. The distinguished M'Combie's rules have helped me most, and I commend, as a kind service to my younger brethren, the following statements, which I have underlined in his little volume to save trouble or reference. As respects the winter treatment of fattening beasts, he observes: "It is indispensable for the improvement of the cattle that they receive their turnips clean, dry, and fresh." He then recommends the storing, if possible, of the whole of the swede crop (I wish we had done so this year), but not the "Aberdeenshire Yellow (only a proportion), as they lose the relish, and cattle prefer them from the field; but I require a proportion of them for calving cows in frost. Frosted turnips make cows with calf abort; and, rather than give calving cows such turnips, I would order them straw and water." This I can endorse as regards sheep too. A few frosted turnips (it was fancied the frost was out of them) were thrown to a ewe flock the other day. During the night one threw her lamb, and had to be removed. The fact is, they give the gripes, and the straining forces out the foetus prematurely. "However faithful in other respects, the cattle-men must have a taste and a strong liking to cattle: they must be their hobby." "Even with men of the greatest experience, the difference in the thriving of the different lots upon the same keep is great. They must not be oppressed with having too many in charge, or the owner will suffer by his ill-judged parsimony. From August till November, a man may take care of thirty cattle very well, or a few more, if the cattle are tied; but when the day gets short, twenty to twenty-five are as many as one man can feed, to do them justice. Good cattle-men are invaluable. They must not only know what to give the cattle, but the great secret, especially when cattle are forced up for show purposes, is to know *what not to give them.*" "When improperly treated" (through having too much turnips injudiciously given), "the cattle scour and hove, the stomach getting deranged. It is a long time before they recover, and some never do well. We generally cure hove by repeated doses of salt, sulphur, and ginger."

"The cattle intended for the great Christmas market" (on swedes since October) "have at first 2lb. to 4lb. of cake a day by the 1st of November. In a week or two I increase the cake to at least 4lb. a day, and give a feed of bruised oats or barley, which I continue up to the 12th or 14th of December, when they leave for the Christmas market." "It is absolutely necessary to increase the quantity of cake and corn weekly to ensure a steady improvement; and if cattle are forced upon cake

and corn over two or three months, it will, in my opinion pay no one."

For the introduction of these extracts I make no apology. I have found the volume, *Cattle and Cattle Breeders*, most interesting and serviceable. I will only add that I have no personal knowledge whatever of

Mr. M'Combie, although he is doubtless well known to most agriculturists through the lovely level black polled heifers he has shown, no less than by the huge bullock which was the wonder of London at a comparatively recent fat show.

THE IRISH LAND ACT.

For many years past it has been a very necessary duty with us to draw, as occasion may offer, the very strongest distinction between English and Irish TENANT RIGHT. There is, indeed, no doubt that the confusion of the two claims has greatly retarded the extension of that principle which we have so long advocated. No man is more sensitive as to the maintenance of his own rights than the landed proprietor, who identifies his position in this way with the exercise of all kinds of privileges, and who grows alarmed so soon as these come under discussion. In this case, however, his terrors have been grounded chiefly on his ignorance. In his neglect to master the subject he has arrayed himself against an unknown enemy, and protested the more, as proportionately less, he comprehended the question. There are hundreds and thousands of landlords in this country who have turned their backs on TENANT RIGHT and driven it from their doors on no better showing than that of the candid gentleman's dislike to Dr. Fell. The reason why he could not tell, but he *did not* like the Doctor.

It has always been very clear to us that the Irish cry was at the bottom of this indefinite dread. Since the day when O'Connell made TENANT RIGHT a war shout people have associated the very name with disaffection and encroachment. The sacred rights of property were to be disturbed, the actual owner was no longer to enjoy the control of his estate, as the mere occupier could keep possession and set the other at defiance. It was counter to some such feeling as this, that Mr. Gladstone broached his Irish Land Bill, a measure which was passed mainly on the understanding that the Irish themselves asked for it, and that the English had nothing to do with it. Still, ably as the difficulty was handled, there was an impression that the Government had gone too far, that it had given too general a recognition to certain peculiar usages and customs. Mr. Sewell Read, in fact, at the last Farmers' Club dinner, said in so many words that "The small tenant farmer of Ireland is not merely going to be paid for every sixpence that he has expended on the soil, but he has also created for him a special interest in the occupation of the land which, although it may in the first instance be to his profit, will, I am quite sure, in the end militate greatly against the interest of the tenantry of Ireland. You can never do a wrong for one class but it must somehow or other eventually recoil upon that class."

According to this the Irish Land Act was doubly a mistake, twice cursed rather than blessed, but the Act is now upon its trial, as its inauguration has been productive of some very noticeable evidence. Cases for the courts have been cropping up all over the country, as we have the reports of some dozen or so before us, while so far the settlement of these has been attended with no very terrible results. On the contrary, the adjustment of one now famous difference between landlord and tenant is altogether encouraging. According to the landlord's own statement of the facts, the tenant on the case being settled by mutual consent "is to receive £850, and, in addition, I forgive the rent due. Had I pressed the case, she would have

got considerably less. The proceedings have only cost about £400, and I shall be no loser, for, as a fine of £500 could easily be got if the farm were let on a thirty-one years' lease at the present rent, it follows that, from a new official occupant, an increased rent will be obtained, equal to about 4 per cent. on the entire outlay." Here it will be seen that the tenant actually receives a larger amount of compensation than the Act would have sanctioned, and still the landlord is amply satisfied. As the concluding sentence of his letter runs, "I feel justified in asserting even from the above exceptional experience that Mr. Gladstone's Land Act is by no means the confiscatory measure some people would fain persuade us." Naturally enough, all the actions have not run off as easily as that of Mrs. Moore against Mr. Macartney. As one of the judges has put it, "the poor frieze-coated man may think he sees fields of gold before him in the Act," and yet the claims have been by no means so preposterous as we had been led to expect. Another lady sets her total of compensation at £81; and, after deducting the year's due, the full amount is allowed. John Morgan asks for £88 in all, and "having so improved his land as to increase its letting value," he was entitled to £80. So far, if not unreasonably, the tenant seems to have the best of it; but the Act would promise to work quite as well for the protection of the landlord. Thus, William Moore, who makes out a long bill compounded of loss of holding, draining, hedging and ditching, subsoiling and drawing mother-earth gets in all £45 instead of £166 17s. 6d., at which he had estimated his "rights." Again, a claim for improvements made more than twenty years since cannot be entertained, and the amount is thus reduced to a mere trifle. Certainly so far we fail to trace any recognition of any unwholesome interest in the land on behalf of the occupier. Naturally a man who paid for good-will when he went in would expect to be paid again when he went out, and this of course often swells the sum to be received; but, if they can afford to do so, the sooner the Irish landlords buy up all such good-will the better for them and their estates, just as allowances for tillages or acts of husbandry should be compounded for in England, as the only effect of such a custom is to lock up and render useless a certain proportion of the tenant's capital.

There is one feature, however, in the Irish Tenant-Right, as exhibited through the Land Courts, that is not so assuring of any ultimate good. Here, in England, if Tenant-Right can mean anything, it must mean permanent improvement or sustained cultivation. If a man systematically reduces the farm again before he leaves it, of course he sacrifices his claim by so doing, or, in other words, takes care to pay himself out. A plaintiff the other day said in his evidence that within the last three or four years he had been taking all he could out of the land, and that he was bound to take as many crops as he liked after his good treatment of the land. This may be in some measure a question of degree, but the admission sounds as if the tenant was *preparing* to leave,

the very thing that the action of the English principle would go to avoid. But, as we said in the outset, the two Rights should be carefully kept apart, as no one yet ever thought of extending the Irish Land Act to England. Nevertheless, as a measure framed to meet a peculiar difficulty it promises at least from so short a trial to be working very satisfactorily. The judges would appear to be in no way embarrassed in interpreting the intention of the several clauses, and the reports of the cases as a rule read clearly and reasonably enough. If there be any feeling of disappointment this will be found, we fancy, chiefly amongst the cottier holders, who have scarcely got as much "Justice" as they had counted on. Their claims are very closely sifted, rather than admitted offhand, as they had probably been led to believe would be the effect of the new law. There were others who, looking at the matter from a different point of view, came very much to the same conclusion, but neither these exaggerated hopes nor fears have been realised. Even in Ireland, *Right* to the tenant does not as now interpreted imply *Wrong* to the landlord, as there can be no question but that many excessive or outrageous demands which might

have been pressed through custom will never be sanctioned by law.

Some few weeks back we gave the address of another Irish landlord, Sir H. Winston Barron, who congratulated his tenantry "on the passing of an Act of Parliament that will give you security of tenure and security for any improvements you may make on your farms. Recollect that whatever money you expend in draining, in buildings, in reclaiming lands, or other improvements, must be by law repaid to you before you can be dispossessed of your holdings. It is therefore clearly your interest to improve your farms. All the profit of the improvements will be for your benefit and that of your children. No one can deprive you of this profit. I, therefore, believe this new law is a good law, both for landlord and tenant." It would really seem according to this that the effect of the new Act would after all be to assimilate the Irish principle more and more with English Right, the essential difference being the sale of the goodwill, for which extraordinary prices have been given within only the last few days.

THE TRURO AGRICULTURAL EXCHANGE.

At the annual dinner, Mr. Pendarves Vivian, M.P., in the chair, the following report from the analytical chemist, Mr. S. T. Rowe, of Redruth, was presented: In compliance with the request of the members of the Exchange that I should furnish a report respecting how far my services have been made use of by the members of the Exchange during the past year, I beg to state that since my appointment in May last numerous communications have been addressed to me by the members, having reference to agricultural matters, some requiring special information, which in every case has been promptly supplied to the best of my ability and judgment. Samples of manures, agricultural salts, soils, and fodder have been received and reported on to Dec. 31, 1870, as follows: 18 of guano, 8 nitrate, 7 soda, 5 dissolved bone, 9 superphosphate of lime, 3 corn manure, 6 sulphate of ammonia, 3 soils, 5 fodder; total 57. It is a matter worthy of remark that during the last six months guano appears to have decreased to a considerable extent with per-centage yield of ammonia. The standard per-centage of this element in Government Peruvian guano has for some years stood at 14 per cent., but for the future I fear such can hardly be maintained or expected. It may afford some satisfaction, however, to learn that what we are losing in ammonia we are to some extent gaining in an increase of phosphates. A knowledge of this fact may serve to prevent much misunderstanding between the merchant and consumer. In Chili saltpetre, or nitrate of soda, there appears a larger amount of foreign matter than in any other manure yet examined. Out of the eight samples analysed two only reached the standard of 94 per cent., one contained 32 per cent. of rock salt, one 30, one 28, one 23, and the lowest 12. In dissolved bone, with one exception, all the samples were of good quality. In the superphosphates five were high-class manures, two moderate, and three extremely low and badly made. The corn manures all contained guano, two having nitrate of soda and common salt mixed, which increased the per-centage of water daily; one sample of fodder was a mixture of chaff, prepared mangold, meal, and salt, hardened into the consistence of soft cheese, and had so far fermented as to become sour and unfit for animal consumption, inasmuch as vegetable acids thus formed tend to a reduction of fat in the animal, and not to the generation of it. Two gentlemen requested to know if a substitute for straw could be found or recommended to be used as litter for cattle and pigs. They were advised by me to obtain bark waste from a tanyard, or use sawdust, both of which being preferable to straw, if the tan or sawdust were sprinkled with a weak solution of oil of vitriol in water, as the oil of vitriol serves to fix the ammonia generated by the decomposition of urine, transforming it into sulphate of ammonia, one of the most active fertilizers known to agriculturists, and it also prevents much of the stench

which is so commonly observed in stables and cow-houses. I beg also to state that in two cases I have been called upon to report on the milk of cows suffering from foot-and-mouth disease. Although these cases were not submitted to me by members of the Truro Agricultural Exchange, they may be of interest to note. In one case, to which I would particularly refer, the milk came from the dairy of a gentleman who had entered into a contract for the daily supply of milk to a large public institution. Assisted by a medical gentleman, a rigid examination of the milk was made under high microscopic power and different lights. Nothing abnormal in the appearance of the fat globules or albumen of the milk could be discovered. In taste, weight, colour, and general condition nothing unusual could be detected which would lead to an inference that the cow was suffering from the effects of a blood poison. The chemical composition of the milk was ascertained with great care, and when compared with the milk taken from a prize Jersey cow in perfect health and condition, with the exception that the latter yielded a little larger percentage of animal fat, but little difference existed. I mention this case in the hope that other gentlemen more competent than myself may be led to further investigate the matter, and not with a view of settling the question as to whether milk taken from a cow suffering from foot-and-mouth disease is fit for human food.

The CHAIRMAN said that last year he recommended them to secure the services of an analytical chemist. At that time he thought he had given birth to a new idea; and though he was flattered to find that his suggestion had been adopted, he found the aphorism "there is nothing new under the sun" confirmed, for in reading over the report of the select committee on the Seeds' Adulteration Bill, 1864, he saw that across the border analytical chemists had been employed by associations since 1859. He would read them some of the evidence given before the committee by Mr. Sharp, a seed-merchant of Lincolnshire, who in question 92 said that the growth of seeds was usually reduced by the trade from 70 to 75 per cent.; and in reply to question 211 he acknowledged that out of £100 worth of turnip seed there would be only £75 worth of good seed, leaving £25 to be accounted for. In question 272, Mr. Sharp said he believed the standard of the generality of the trade to be about 75 per cent. of germinating power, and in question No. 276, that the germinating power of "net" seed was from 90 to 100 per cent. This evidence was confirmed by Mr. F. Kennedy, another seed merchant, who, in reply to questions, said there were two establishments in London where 100 tons of clover seed are doctored every week, and that he believed 15,000 tons of clover seed are sold per annum in the United Kingdom, of which 1,000 to 1,500 tons are doctored. In

question 501, he said, "the farmer need only buy 85lbs. weight of the net to produce the same result as 100lbs. of the adulterated seed." It appeared to him (the speaker) necessary that some parliamentary investigation should take place in this matter. During the sitting of the committee, Dr. S. McAdam, lecturer on chemistry at the Royal College of Surgeons, Edinburgh, and consulting and analytical chemist employed by the Farmers' Analytical Association, was examined. This society was instituted in 1859 for the purpose of testing manures and feeding-stuff, and in 1862 they commenced the examination of seeds. He would explain that by the rules of this association the members were to assess themselves, and the annual rate of assessment was 5s. per 100 acres of arable land, and no farmer was to pay for less than 200 acres, and none for more than 1,200. The rate of assessment was soon reduced, until now it was only 2s. per 100 acres, and the number of members from 60 to 70. Dr. McAdam stated the per centage of live seeds in each kind of plant to be as follows, as a seven years' average:—White clover 72, alsike clover 74, red clover 87, yellow clover 74, and taking the whole during seven years of the clover plants, the average was 76 per cent. In yellow clover the professor said he found as little as 32 per cent. sprouted, and of white clover as high as 96 per cent. In turnip-seed he found the germinating power as low as 27½ per cent. The average of seeds he found to be as follows: Clover 76, cow grass 85, rye grass 75, turnips 72½, sheep parley 40; total average 70 per cent. In connection with this analytical association, when the farmer found that the analysis showed the manure or feeding-stuff is not up to the proper standard, he complains to the dealer or agent, and demands a reduction, or that the material shall be taken back. The effect of this association has been very marked indeed, and the improvement both in the quality of manures, feeding-stuffs, and seeds very decided. The following question was put by the committee: "Has the effect of your Society been really to stamp out adulteration in your district?" The reply was: "It has; we have had only one instance of an inferior manure this year, and no instance of inferior seed." And the cost of this improvement effected by the association had been only 2s. per 100 acres of arable land. He troubled them with these extracts from the report issued by the committee of the House of Commons in order to show them what had been the result of an association that had been in existence but eleven years, and he had presented the secretary of the Exchange with a printed copy of the report. The plan of employing an analytical chemist appeared to him to be exceedingly satisfactory; and though he had not the slightest reason to suppose that the seeds sold in this neighbourhood were not "net," and the manures genuine, yet it was well that the farmers should be in a position to ascertain the actual value of the articles they were purchasing. He thought that this employing an analytical chemist would make merchants exceedingly careful what class of seeds and manures they attempted to sell; certainly there could be no harm in having such scientific investigation, and the cost was exceedingly small. This question he brought before them the previous year, as it struck him, from being concerned in business, that they should not buy seeds or manures without knowing their actual worth; and in this respect agriculturists should be in the same position as those who carried on mercantile or manufacturing businesses.

Mr. OLVER quite concurred with the chairman in his estimate of the importance of chemical analysis to the agriculturist. There was no doubt that manure and food stuffs were largely adulterated, and this they wanted to put a stop to. The growth of this Exchange was a matter of considerable congratulation to the members, yet the society might be made of much more service to the members than it was. Lectures, he thought, should be delivered from time to time on questions of interest to agriculturists. The question of local taxation, he thought, might be left to our Chambers of Agriculture to deal with, but there were many subjects connected with practical agriculture that might be considered with benefit to the members of the Exchange and agriculturists in general. Agriculture he considered one of the most important industrial occupations of any nation, and he should be delighted if he could congratulate the agriculturists of this county on being in a prosperous condition. They were often called "grumblers," but of late they had found out that it did not pay to grumble. For instance, if they had a bad crop it would

not do to make it known to the world, for then the eagle-eyed merchant went to other countries and supplied the deficiency. Thus, when they could no longer get high prices for a small crop, agriculturists found it was opposed to their interests to grumble—they had better give out to the world that they were highly prosperous, when, in fact, the reverse was the case (laughter). The last two or three years had been most disastrous to the farmers of the kingdom; and it was said by well-informed men that during the last three years two years' rent of all the land in England had been sacrificed by the occupier, and this he believed to be the case. The losses of farmers were somewhat peculiar, and could not at once be ascertained. Now, if a commercial man made a bad debt he knew his exact loss at once, but with the farmer the case was different. During the last three years they had suffered from almost unprecedented drought, and the effect of this would be felt for years to come. Last year, for instance, though he kept a farm as well calculated to produce grass as any in the county, he had scarcely grass sufficient to keep his cattle alive, and his grass was worth no more at Michaelmas than at Lady-day. The consequence was, he had to feed his cattle on corn and cake, and their condition was such that he must keep until Lady-day cattle he ought to have been able to dispose of at Michaelmas last. Thousands of sheep were now dying, not from starvation exactly, but from disease brought on from scarcity of food. Cattle were in a similar plight, and some farmers he had met to-day had lost their young cattle in a most unaccountable manner. The fact was, the warmth of last summer kept the cattle alive, but now the cold had set in they became pinched up, and died off. Then there was but little straw last year, and the consequence would be that next year there would be but little manure at command. All these things were of considerable importance, and entailed great losses on agriculturists—losses that were difficult to immediately calculate. The question to which he would direct their attention was the increasing load of taxation. Taxes they had to pay, whether the wind blew high or low. He was sure he expressed the feelings of agriculturists when he said they were ready to pay all legitimate taxes: they wished to see the taxes of the country increase; they wished the army and navy to be properly supported; but they did not want to pay more than their fair shares. They were willing to pay in accordance to the value of the property protected, but they wished that others should pay in the same proportion—in fact, to have fair play and no favour. The landed interest was burdened with too many taxes, and he did not hope for any relief until the landed interest had regained that influence in the House of Commons it had lost, and had become absorbed by the manufacturing classes. The last tax put on them—that of education—was of considerable importance, and some hon. gentlemen were beginning to see that there was truth in the opinions he expressed on this subject the previous year. Mr. Brydges Willyams had stated that he would not vote for a higher rate than one penny in the pound, but he (the speaker) was certain they could not carry out the provisions of the new Act on a rate of 1d. or 2d. in the pound. How was it possible for all the children it was determined to educate to be sent to school and maintained on such a rate? Was it possible for a labouring man with eight or ten children to support and educate them on 10s. or 12s. a week? That was out of the question. With respect to education he thought it possible to educate the children of the lower classes so highly as to do away with their being merely useful members of society, and if a poor lad was educated above his position he was generally excluded by those above him from filling the situation for which he was qualified; and this social jealousy did actual injustice to the lad. But social jealousy did not end here; he had noticed in the *Mark Lane Express* some correspondence having reference to the education of the children of the tenant-farmer class in Herefordshire, and surprise was expressed that they should be so accomplished as to play the piano. But we need not go so far as Herefordshire. He knew an instance within 20 miles of his own residence where a clergyman entered a farmer's house, was quite surprised to see a piano, and ventured to ask if any one in the house could play on the instrument. Surely if such a feeling existed among the upper ten thousand they should be careful how they spent money on the children of the lower classes, or they would be better educated than themselves.

Mr. PENDARVES VIVIAN said: One of the most important measures which had come before Parliament since he had been

a member was the Contagious Diseases (Animals) Act, to which the dreadful scourge of the rinderpest gave rise. Under that Act the country had granted compensation to agriculturists to the extent of £800,000 in money, of which about £250,000 went to the county of Chester alone. The effect of the other clauses of that Bill was, after stamping out the disease, to prevent as far as possible its re-introduction to the country. With that end in view the Privy Council was empowered to stop altogether the importation of cattle from countries which could not produce a clean bill of health, and place limitations upon importations from what might be called suspicious countries. Local authorities were, moreover, enabled to take measures for preventing the spread of the disease, and the transport of cattle was also taken care of. It now only lay with the consumer to demand that the railway companies should feed the cattle during transit, and their demands must be complied with. It was most important to the agriculturist that his cattle should arrive at their destination in good condition, and not in a half-starved and exhausted state. That bill had been conducted through Parliament by the same gentleman who had the conduct of the Education Bill, Mr. Forster, who had on both occasions shown the utmost ability, and disarmed opposition, although he (Mr. Vivian) had felt himself compelled to vote against him more than once. He hoped that if, unhappily, the rinderpest should find its way into the country again, that the power given by the Act of which he had spoken would enable them to stay its progress to a very great extent. The Act also gave power to deal with the scab in sheep and the foot-and-mouth disease, both of which, he was sorry to hear, had made their appearance in the county. The rating of mines had long been a vexed question in Cornwall, but he hoped it would be fairly settled during the ensuing Session, by the bill to be brought in by Mr. Goschen, President of the Poor Law Board.

The CHAIRMAN next gave "The health of the Secretary," Mr. W. H. P. Martin, than whom he had never come across a more efficient secretary.

Mr. MARTIN, the Secretary, read the following :

LIST OF AWARDS.

1ST CLASS FARMS, MAXIMUM POINTS 40.

Names.	Clean.	Fences.	Live stock.	Crops.	Management.	Total.	Prize.
J. Sydney Davey ...	6	7	8	5	7	33	1
Richard Tremaine ...	8	7	7	7	7	36	2
Peter Thomson ...	5	6	7	5	7	30	
G. Mason	5	8	7	7	7	29	
Wm. James	5	6	6	6	6	29	

2ND CLASS FARMS.

Lemon Chellow	8	7	7	8	8	38	1
Wm. H. Hall	8	6	7	8	8	37	2
Joel Manuell	5	5	7	7	7	31	

1ST CLASS ROOTS, MAXIMUM POINTS 32.

Con-

Drilled Clean. Crops. sump- Total Prize
tion.

H. J. Hocking.....	7	8	8	7	30	1
G. Mason.....	7	6	8	7	28	2
Richard Tremaine ...	7	8	7	7	29	
P. Thomson.....	7	7	6	7	27	
J. Trerise.....	7	6	6	7	26	
Wm. James	7	6	6	7	26	
W. Hendy	7	5	6	7	25	
J. S. Davey	8	3	5	8	24	

2ND CLASS ROOTS.

James Hall	6	7	7	7	27	1
Henry Pearce	6	6	7	7	26	2
Simon Chellow.....	8	8	7	7	30	
W. H. Hall	7	8	8	7	30	
C. John Angove	6	6	6	7	25	
Joel Manuell	8	5	6	7	26	

MARTIN AND SON'S PRIZE.

W. H. Hall	8	8	8	7	31	
Simon Chellow.....	8	8	8	7	31	
H. J. Hocking.....	7	8	7	7	29	1
Peter Thomson	7	8	7	7	29	
John Trerise	7	6	6	7	26	
Henry Pearce	6	6	1	7	26	
Wm. Hendy.....	7	5	6	7	25	
J. S. Davey	8	3	5	8	24	

The judges, Messrs. John Magor and John Stephens, read the following note respecting Mr. Thomson's farm. "We were very much pleased at the manner in which Mr. Thomson is cultivating his land, although we could not give him a farm prize. It is only a few years since he took the farm, but during this short time he has laid out a considerable sum in manure, draining, &c., and is deserving of great credit." With regard to Mr. Manuell the judges remarked, "Much of late has been said about the cultivation of waste lands, and Mr. Manuell has, at a very great expense, brought land of the very worst description into cultivation; this has been attended with an enormous amount of labour, which has, no doubt, to some extent, interfered with the management of the remainder of his estate, or he would probably have run the successful competitors more closely." In the third class, Mr. Hall and Mr. Chellow had the highest number of points, but the prize could not be awarded to either of those gentlemen because they had taken a prize in another class, and the rules prevented the competitor taking two prizes.

Mr. MAGOR said the selection of seeds was a very important matter, and the remarks of the chairman upon the point were very valuable. He said he agreed with Mr. Olver in most of his remarks, and went on to point out the great burdens unfairly placed upon agriculture, and advocated a more equal distribution of local taxation. The manufacturer possessed a great advantage over the farmer, for if his business did not pay he could shut it up, whereas the farmer was compelled to go on. He did not altogether agree with Mr. Olver's remarks respecting the Members of Parliament for towns, for he believed agriculturists were often indebted to borough members.

Mr. STEPHENS also responded.

Mr. W. TRETHEWY recommended that a memorial should be sent to the High Sheriff requesting him to call a county meeting, at which the question of local taxation might be fully discussed, and where resolutions might be passed which would greatly strengthen the hands of their representatives in Parliament. He believed it was the county meetings which had been held from the Land's End to John O'Groat's House, which enabled Mr. Gladstone to carry the measure granting compensation for losses by the cattle plague, and he contended that every means of using their strength and obtaining justice should be adopted.

Mr. SYDNEY DAVY, the winner of the first prize cup, spoke in favour of deep cultivation, which ensured drainage in winter and absorption of moisture in summer. A great deal of good manure might be saved by having covered manure sheds at the farm buildings instead of allowing the valuable part of the manure to be washed away by the rain. They would save a third part of their roots by pulping them for both cattle and sheep; and by carrying half home and consuming the other half on the land—pulped—and ploughing in lightly, the land would carry a good crop of clover without any other manure. This course had enabled him to have, notwithstanding the very dry summer, 50 tons of hay to dispose of, whilst he was selling his eleven months' old sheep for 50s. each. Another economy on the farm was to have a place for everything and to keep everything in its place. He advocated the cultivation of waste lands by steam-power, and believed it would pay.

Mr. CHELLEW (St. Agnes), was astonished at a statement made by Mr. Olver to the effect that the competitors would not be much benefited by the prizes. He disputed that altogether, and held that if a man farmed properly, his farm ought to be always in a condition to compete for a prize. He was only a rack renter, but he could not do any more with his land if he were the owner, and he thought it was always to the interest of the occupier to farm in the best manner.

Mr. OLVER said he was of opinion that farms might be farmed too highly to be profitable to the practicable farmer. He did not believe that what was called the garden system would be profitable if applied to a farm.

Mr. CHELLEW disagreed altogether from Mr. Olver. He contended that the nearer they could approach to the garden system the more profitable they would find it.

Mr. OLVER advocated the classification of the prize list, in future, so as to give prizes to tenant farmers in one class, and to have separate classes for owners of land, and for persons who joined other occupations with farming.

Mr. MAGOR said the owner of land had to allow the tenant farmer five points in the competition, which he thought was quite enough.

CHEESE FACTORIES FOR SCOTLAND.

At a public meeting held in the Townhall, Ayr, to take into consideration the propriety of establishing cheese factories in the district, similar to those in operation in America and in some parts of England, the meeting was largely attended by the leading farmers and dairymen of the district.

Mr. MARK J. STEWART, the chairman, said: The subject we have met together to consider to-day is not only one of local interest, but of great national importance. Every year brings with it changes necessary to the various systems of agriculture as practised amongst us, and any of us who can recall the progress made during the last twenty years may readily see how every department of husbandry has advanced. But in order not to be behind in the path of progress, we must watch every attempt to economise labour, as well as the means employed, and bring to still greater perfection what our industry produces. It should be a matter of great consideration whether this cannot be done by uniting the available forces we possess in more systematic co-operation with each other, and, by the introduction of larger combinations of labour and capital, facilitate the object desired. We must not only look at home, but abroad, and ascertain whether results which have proved successful in one country are applicable to another. I need hardly speak to this meeting of the great importance the manufacture of cheese has exercised on the progress of agriculture in this part of Scotland. Not only has benefit accrued to the laird, but the gain has been shared by the tenant as well. Farms suitable for dairy stocks fetch a far higher price in the market than they would have brought before the introduction of the system, and their occupants as a body thrive. Many think, however, that this state of things will not long continue, and there is danger ahead. A cloud has arisen in the western horizon which threatens to overwhelm us. America is doing wonders in her cheese-producing powers. A short time ago her cheese was held of no account in the London market; now it is competing with and outbidding many of our best makes. That this danger is not imaginary, I may mention that the imports of cheese in 1869 amounted to 979,189 cwts., one-half of which came from the United States, which moiety was worth £1,500,000. It may be useful in considering this question to trace its first origin. In 1848, a farmer, with more skill and enterprise than his neighbours, not content with the quantity his own dairy yielded, persuaded some neighbours to send their curd to him to be made into cheese. The curd was weighed, and paid for at a stipulated value, but was found so unequal in quality that the project failed, and the attempt was given up. In 1851, a Mr. Jesse Williams, of Oneida County, New York, a "smart man," as the Americans would say, pre-eminent among his fellow-farmers for his excellent cheese, not only sold his own make but that of his son's, before either lot was manufactured. The son, a beginner, and just starting for himself in a farm, afraid lest his cheese should not come up to the mark, agreed to send his milk daily to his father's dairy, that the cheese might be of equal quality. His example was followed by others, and hence we trace the origin of the first cheese factory in America, and how it was followed up. In 1854 we hear of four factories; in 1860, 17 were established; in 1861, 18; in 1862, 25. From this date, which may be considered the second epoch in the history of associated dairies, we find that private dairies were practically abandoned, and nearly the whole of the milk was sent to the factories. Now mark the rapid development of this system. In 1863, there were 111 new factories; in 1864, 210; and in 1866, it was calculated that the produce of no less than 200,000 cows were passing through the factory process of cheese-making in the State of New York alone. During the past year, 1870, it is said that a sixth more in the total quantity of cheese was made in America, for, besides the factories, in localities where roads were bad and farmers far apart (so that the conveyance of the milk was rendered difficult) many branch factories were set up. Curious enough, the greatest impetus given to this system arose from the rinderpest in England. Hitherto dealers had avoided purchasing American cheese in large quantities, but finding some supplies fail, were driven to buy in a foreign market.

The Americans were not slow to perceive the tide had turned, and from the Dairy Conventions (institutions which I think we might do well to copy), or assemblies of practical men, meeting for the purpose of discussion, agents were sent to England to collect opinions on any practical point as to size, shape, colour, and to study the taste of the British public. We have already noted the success which this unity of purpose gave them. Let us next consider the constitution of the factories, which are of two kinds. The joint-stock factory is where land is bought, buildings erected, plant fixed, shares taken by a number of individuals, a manager appointed by a committee to run the factory, and paid at a fixed rate of wages, or a percentage, and the proceeds divided at the end of the year. The whole produce of milk is sent by each of the farmers having an interest in the concern. The alternative system is that of a limited company, where one or more persons erect a factory, and either buy the milk from the surrounding farmers, or take charge of it, and manufacture it at a fixed price for them. It is important we should consider this management. It is simply that of a co-operative society; a committee meets weekly and supervises the whole process. Each farmer is bound to convey punctually his milk night and morning. This is done in some places by a carrier, or by carting it turn about, and going a round with a waggon; or each carting his own milk on his own account. The cans hold from 125 to 500 gallons each, and great care is taken that they should be quite clean, as through the carelessness of one person a large quantity of milk might be injured. It is not advisable to cart the milk above two miles, though it is frequently brought four or five, but as we have much better roads than in America, the advantage in this respect is on our side. On arriving at the factories the milk is handed up by a windlass and weighed, then run off into vats below—a receipt being given to the carter; and as one gallon of milk is equal to ten pounds weight of milk, which should produce one pound of cheese, the farmer knows pretty well what his cows are doing. The vats are very large, capable of holding about 400 gallons of milk, or whatever may be the daily produce of 100 cows. A most important consideration is a good supply of pure water, not exceeding a temperature of 54 degrees in summer. The whey is either used on the spot for the pigs or sold back (as at the Derby factories, at $\frac{1}{4}$ d or $\frac{3}{4}$ d. per gallon). If fed on the place, each farmer is allowed one pig for every five cows. Many rear calves on the whey, or make it into butter by heating it to a temperature of 180 degs. Acid (or sour whey) is added at the rate of one gallon to every 50 of milk, when the oily matter rises at once and is taken off. About 20lbs. of butter are obtained from 500 gallons of milk. The butter is good for home consumption. It is considered no factory should have less than 300 cows to pay well; from 500 to 800, or not exceeding 1,000 are the most profitable numbers. Remember that nearly the same expense necessary to work a small factory will manage a large one. The American dairymen do not like piling the shelves in their cheese lofts one above another, considering it injurious to the cheese; they prefer building the storehouse very high, with single shelves. It is reckoned there should be one skilled hand to every 400 or 500 cows, and one unskilled hand to every 200 cows. All the hands need not be continued the whole year. I am glad to think the system which I am now putting before you is having a fair trial at Derby and Longford, and, though this is the first season, the result as yet has been most favourable. In the factory at Derby, for 300 cows, two men and one boy are the labour employed; at Longford, for 500 cows, two men and two boys. One is an urban, the other a rural factory—the latter promises to be the most successful. Up to September their cheese had sold at from 80s. to 85s. per cwt. of 120 lbs. The farmers were paid $6\frac{1}{4}$ d. per gallon for their milk, with a share in the profits. Dairymen from America are working it. In Cheshire a tenant-farmer has started, and is working a factory, and says that it has more than realised his expectations. But other countries besides England are adopting this system. Only on Monday I heard that the Russian Govern-

ment had offered £200 for nine months to a young man in one of the Derbyshire factories to go abroad. Sweden, Denmark, and Switzerland are all working at the same system. And now let us consider the principles on which this system is founded. These are economy of labour, saving of capital, and a better article produced; in other words, economy of production and superiority of produce. To examine the first of these advantages, there is, you will observe, a great saving of labour. One man of skilled labour, with two assistants, can manage the produce of 500 cows. Spread these 500 cows over ten farms, and you require ten skilled persons and ten unskilled assistants. There is also a saving in the purchase of material wholesale, such as salt, rennet, annatto, and cheese cloths. Then you are more likely to have the premises in the best possible order and condition, instead of half-fitted-up inferior houses. Factory cheese in America, as a rule, is sold at 10s. per cwt. more than cheese made in private dairies. It may be that these private dairies are probably not of so high a standard as our own. Suppose a dairy of 40 cows, each cow producing 4 cwt., or 480lbs.—this is 8 tons of cheese—say the manufacturing process costs 0½d. per lb., which is above market price—that would come to £37 6s. 8d., but 10s. per cwt. on 8 tons would amount to £80, you would still make £42 13s. 4d., besides saving some £20 in the keep of a servant, that is £62 13s. 4d. clear gain. But observe, if you go into a large concern the expense diminishes. Take a dairy of 800 cows for example, each cow yielding 480lbs., and see what the expense of running the factory would be—

To interest on, say, £1,200 for factory	£70
To materials, salt, rennet, &c.	160
For skilled hands and assistants.....	270
	<hr/>
	£500

This, divided over 800 cows, would show an expense in manufacturing their produce of 12s. 6d. per cow, made a little over 0½d. per lb. on the cheese. Now do not forget there is a further advantage in economy of production, by a great saving of drudging to the farmers' wives and daughters. We are not all big farmers—we cannot all afford bowers, and I think we do not half enough pity our own families. In making cheese in factories there is another great consideration, and that is uniformity in make; and there is greater probability of effecting this in large quantities than in smaller ones. The remaining advantages are superiority in produce and higher prices. I feel confident that the system I am now advocating would be an immense boon to the smaller farmers in particular, who cannot now compete with their larger neighbours in quality or price. If a landlord erected the buildings, and the tenants paid a per-centage, as I have indicated above, the matter, if gone into with unity and a good spirit, and with no jealousy, would be found to pay well. But as every question has its dark side, let us look on the disadvantages of the factory system. First of all it is said, although you can detect watered milk, it is very difficult to do so, even with per cent. hydrometers and lactometers, and a blackguard might by foul play injure a day's make of cheese; then in carrying the milk to the factory it may come turned and sour, or the cans may be dirty. Objections are often taken on the quality of milk varying in different byres. Letters from America tell us that this is not the case—that though there is great difference in individual cows, over a number it is very small—cows well tended and carefully wintered will doubtless give a larger quantity, while the upland herds often yield as good a quality and better. In America it is necessary to make the early and later cheese at home, but I think we should not require to do so. Their factory season begins from 1st to 15th of April and ends 1st to 15th November. Another objection taken is to the greater cleanliness found in private dairies, but of this difficulty I do not think much. There is a danger, however, which may be greater than is apparent at first sight, lest the factory system prove a check to individual energy and exertion, and many may fall below the present standard, and cease to regard cheese-making either as a business or a study. It may be supposed that this system, if adopted, would put down the bowers. I think it would not do this. Farmers know how important it is their cows should be well fed and milked properly—their grieves could not undertake this, and therefore superior men must still be employed, and if 10s. per cwt. were added to their price of cheeses, they would not grudge good

wages to a good man. Remember all these disadvantages, and many more, meet the American farmers, and observe how they are beating us in our own market, and have overcome all difficulties. I shall only say, in conclusion, that in proposing to introduce from another country any new process which appears favourable to our husbandry, we must examine the condition of things in the two countries, and, if different, ascertain whether the difference be favourable or prejudicial. In America we find land is cheap, labour dear, climate has great variations in heat and cold, from which we are exempt; their market is more than 3,000 miles distant, while ours is at hand. My only object in bringing forward this subject is to ventilate the question and promote discussion upon it, and, if deemed advisable, appoint a committee who might go later in the spring and examine for themselves the English factories, and consider whether this system is suitable or not to this country. Recollect, Cheddar, an obscure village, became famous from a few small farmers combining to make large cheese. Let us not be behind hand, but let us unite still to retain our name and reputation as among the first cheese-makers in Scotland. I may mention this is a subject in which I take a deep interest, but it has lately been more directly brought under my notice by Mr. Frederick, of Gass. I trust that he will tell us what he has lately seen at the Derby factories, and that other gentlemen interested in the matter will give us their views on the subject.

Mr. D. FREDERICK said: I must say that I have listened with much pleasure to the able and clear manner in which the Chairman has introduced the factory system of cheese-making. I have long thought of the factory system, but I confess to my having laboured under the false impression that it was impossible to make such fine cheese from carted milk as from milk carried in the usual way to a properly constructed dairy. This, however, was at once dispelled after seeing the appliances for that purpose. In the month of November I visited the Derby Cheese Factory, and it may not be uninteresting to many in this large meeting that I should relate what came under my observation there. Mr. Alderman Roe, who handsomely gave the use of the premises free for one year, with great kindness and courtesy showed me over the factory, and the manager was most obliging in explaining everything as we went along. The carrying of milk is accomplished by means of cans, each about 2½ feet deep by 1½ feet in diameter, having a lid, with an air pipe in centre to descend to any line of milk in it, and thus prevent any shaking of the milk, which is so injurious to it for making fine cheese. Each contributor's milk is emptied from his cans into a large can placed on a weighing machine, and let off through a pipe into the steeping vats, the weight, of course, being registered. The steeping vats are large boxes, about 20 feet long, 4 feet broad, and 20 inches deep, made of wood outside, and tinned inside, having a chamber between for steam or water, as required. They are partly filled with the evening's milk, and for the cooling of which a supply of cold water is allowed to circulate through the chamber, and the overflow is conducted on to a little water-wheel placed in the corner of the apartment, by which it thus makes one revolution per minute, and, by an ingenious, but simple appliance, the milk is gently agitated, to prevent the cream from rising. After the morning's milk is added, rennet is applied in the usual way; but, not to weary you too much, I may tell you that in 26 hours from the adding of the rennet to the milk, the cheese is manufactured, and placed in the store to be matured. I could at once see that, with so many facilities, not only are the operations expedited, but there is economy of labour to a very great degree, whilst an article is produced, although, in my opinion, not equal to some of our crack dairies, decidedly superior to the average of this district. Since being at Derby I had the privilege of a conversation with Mr. Robert M'Adam, who with his family have the management of the milk of 12,000 cows in the United States. He was celebrated, as many present know, for cheese-making in this country. He told me that he had been at the Longford Cheese Factory, in Derbyshire, and considered the cheese made superior to the cheese made in two of the crack dairies of this district. I am convinced that cheese factories would prove a great benefit to the dairy farmers of this district; and although I would use every effort to secure a factory in my district, I could not think of breaking up my present system, provided with a class of bowers as I presently have, but would willingly

contribute my share in the erection of a factory, or in payment of a rent-charge on it. The proprietors at Derby became guarantors to the extent of £5,000 sterling that the farmers should be paid 6½d. per gallon for their milk. I do not think we should ask any such guarantee; but I think the proprietors should erect the factories at six per cent. With this provision, and on our being satisfied with the success of the Derbyshire factories, I think we might go forward without fear of failure. I would suggest that the matter be taken up by such districts where factories are required; that each appoint a committee to visit the Derby factories, to report faithfully to their neighbours, as being the best way of securing the co-operation of all interested; and when a factory is to be established, I think it should not be for fewer than 800 cows, or more than 1,000, which latter number could be had within a radius in most districts here of two miles, which is not the third of the distance that milk is sent to factories. Mr. M'Adam told me that the purest milk was driven seven miles to his factory, and that no attempt at fraud was attempted but in one case, which was at once exposed; the perpetrator was expelled at once, and so disgraced that he had to leave his country.

Mr. CAIRD spoke with great diffidence on the subject, being a learner. But it struck him as obvious, without going into figures, that in a skilled manufacture, such as cheesemaking now is, the larger the scale, the cost of the highest skill, being divided over a heavier produce, will be relatively less per ton than when the work is done on a small scale. The proportional cost of fuel and other items would be similarly diminished. And it is found in nearly all manufactures that those who devote themselves entirely to one department, as in the cheese factory system they would—instead of by turns milking the cows, or feeding them, handling the curd, regulating the hot-pipes, and turning the cheese—soon acquire a dexterity and knowledge which generally produces a superior article at less cost. We had already in this district a considerable number of well-fitted dairy establishments, and the existence of these rather stood in the way of the prompt introduction of the factory system. But he thought it would be no inconsiderable step towards that system if those who had already dairies of some extent, with suitable buildings, where to say to their neighbours who had smaller farms, or who had not the necessary buildings, that they were ready to take in and manufacture their milk on fair terms. For his own part, he would be happy to enter into such an arrangement. But before even that could be done, it would be necessary to obtain information in detail as to the manner in which such arrangements can be worked out in an equitable way, and therefore he recommended the meeting to begin by taking steps to procure and circulate correct and detailed information on the subject.

Mr. SYMINGTON said Sir John Hay had intimated to him his cordial approval of the proposal for establishing the factory system in this country so ably advocated by the chairman, and had authorised him to say that he is ready to offer buildings on his estate for carrying it out in the Glenluce district, if the proposal is to be gone into. He (Mr. Symington) was himself heartily in favour of introducing the system into Wigtonshire. The suggestion just thrown out by Mr. Caird was worthy of their serious consideration, and might be gone into with mutual advantage both to large and small farmers. The introduction of power-loom weaving into our country had superseded hand-loom weaving, and we all know the immense benefit that change had effected on the manufactures and prosperity of the country, although, when first introduced, it was opposed by many upon narrow and erroneous grounds. In like manner, he believed the introduction of the cheese factory system into our county, although it might for some time adversely affect some individuals, would prove an immense advantage to the whole district generally. We would thereby be able, equally with the power-loom factory system, to produce a superior article at a cheaper cost, and compete with the whole world. It was his desire to have their bowers, now a large and important class of men in the district, to whose skill and industry they were all largely indebted, retained amongst them, and he would be sorry if the introduction of cheese factories should be injurious to any of them. He believed, however, that in the end it would not, and that they even, as well as the farmers, would rather be benefitted by the new system. Meantime he would approve of the proposal for obtaining

farther information from those places in England where the system has been introduced, and he thought that they should now form a committee for that purpose, to be so grouped together, from all parts of the district, as to be prepared at a future day to take action in the matter.

Mr. COWAN said he thought the dairy farmers in the Rhins were greatly indebted to Mr. Stewart for having brought before them the system of cheese factories as practised in America and England; and in after years, when they had taken root in the land, the credit would belong to him of having first brought the subject prominently before the cheesemakers of Scotland. He (Mr. Cowan) was of opinion that the factory system would have been received with more favour in the district ten or twelve years ago, before they had been put to so much expense in the erection of new dairies and cheese-rooms, fitted up as they now were with every improvement for carrying out their present system as perfectly as possible. He also believed that factories were calculated to benefit small dairies rather than large, and that in the latter, when skilled makers devoted their whole time to making cheese, as good an article could be made as in a factory, and sold at as high a price. Previous speakers had said they would still require to keep on their bowers or dairymaids. He did not agree with them in that; but if that were so, he did not see that any benefit was to be derived from the factory system by the holders of large dairies, for if they could not economise in skilled labour at home it was uncertain that they would reap any advantage from having their cheese sold out of a factory at a higher price. He then mentioned some difficulties which occurred to him as likely to interfere with the general adoption of the system into the district for some time, but had no doubt these would be overcome, and that if it was decided to try the experiment they might rely on its being as successfully carried out here as elsewhere. He did not wish it to be inferred from anything he had said that he was adverse to the system. On the contrary, he felt inclined to support it, and would like to see a small factory established in some parts of the Rhins during the coming season, but thought that parties who were willing to give their milk for this purpose should have a guarantee from other parties insuring them against loss during the first year.

Mr. BROWN (cheese dealer, Kirkecolm) expressed his approval of the proposal.

Provost INGRAM, following up the remarks of Mr. Cowan, which he said were very practical, offered a suggestion, by way of an experiment, for testing the system in the district. The farmers in a district might send part of their milk to some convenient and suitable building already erected, which might be procured for the purpose, and let the system in this way receive a fair trial. No one could lose very largely by doing this, and after receiving a fair trial the experiment could either be continued or dropped, as might be seen proper. Mr. Symington had intimated Sir John Hay's approval of the system, and his offer to give buildings suitable for a factory. He supposed this offer referred to Bellochjargon Mills, which were, in his opinion, very suitable indeed for making such an experiment as he had suggested, and he thought that offer should be taken advantage of.

The CHAIRMAN, in reference to the difficulties stated by Mr. Cowan, remarked that these difficulties had been felt in America when the system was introduced there, but had all been overcome.

Ex-Provost GUTHRIE had doubts as to the factory system being an advantage to large farmers, but believed it would prove a decided benefit to the smaller farmers in the district, and landlords might advantageously erect a suitable building for enabling these smaller farmers to carry it out. He would meantime suggest that the Chairman's able statement should be published and circulated throughout the district.

Mr. COLE, while cordially approving of the proposal, spoke of the great disadvantage the farmers of Wigtonshire had, as compared with those in Somersetshire and Cheshire, in regard to natural grasses.

A committee was then appointed for obtaining the information referred to, and to report to another meeting, consisting of Messrs. D. Frederick, A. M'Neil Caird, G. Symington, J. M'Master, Culhorn Mains, Brown, Kirkecolm, and others, with power to add to their number.

Mr. SYMINGTON moved a vote of thanks to the Chairman for presiding and for his able speech.

THE SHROPSHIRE CHAMBER OF AGRICULTURE.

At the annual dinner, the Earl of Powis in the chair, the attendance was not so large as on previous occasions. The Rev. C. F. C. Pigot said he believed next year they would see a larger number of the clergy present, for they would find that the Chamber dealt with many questions closely connected with the efficiency of their work, and the social condition of the labourer, the education of his children, the improvement of his dwelling; and there was also a question in which they had a pecuniary interest, to which the Chamber was about to devote its energies, viz., the important question of Local Taxation. It was singular that this subject of local taxation had not yet awoken any great interest in the landed proprietors, especially as they invariably met any appeal which had a claim on them not only with liberality, but with great munificence. Yet it was easy to see how deeply they were affected by the present system. The justices of twenty-eight counties in Quarter Sessions had just sent up petitions to the House of Commons or the Home Secretary. The other counties would no doubt follow. The great towns, too, were moving in the matter—Liverpool, Manchester, and Leeds. There was no divergence between town and country in this matter. The towns would be their warmest allies. Indeed, they were the greatest sufferers, for house property amounted to sixty-five millions, and land to only fifty-five millions of that property which alone was liable to local rates; and while the agriculturists escaped with 2s. or 2s. 6d. in the pound, the towns paid four and five and six shillings and more. We could already rely pretty much on the support of the county representatives, when this matter comes before the House next session; and as soon as the borough voter understood clearly (and we must enlighten him) that the rates which made him lose his temper regularly once a quarter were levied on only about one-seventh of the whole wealth of the country, we should soon see the borough members supporting the county members in claiming the redress of this grievance.

Col. CORBETT, M.P., said: In years gone by I had an intimate knowledge of the whole county of Shropshire and those in it, and I believe there is hardly a field I have not been in, or a hedge I have not broken or got clean over. Two or three agricultural measures occupied our time in Parliament since our last meeting at this festive board. We had a short scurry upon our old friend the Malt-tax; but, as usual, he beat us at last. However, I hope that by patience and perseverance we yet may manage some day to pull him down. With regard to local taxation, I hope that is in a more hopeful state; it has been uppermost in all our thoughts, and has received a great deal of attention. The Government have also promised to deal with it, though I must say they don't appear in any great hurry to do so. However, it is a question which is pressing like a nightmare on our chests, and must sooner or later be settled on some fairer basis. There is another question which, as I think it concerns many of those in this room, I will with your permission allude to: it is the subject much in people's thoughts at present—that of education. Those who have read the reports of the commissioners to inquire into endowed schools will be aware that there are a considerable number of schools in this county with small endowments, which in years gone by have done more good and been in a more prosperous state than they are at present. Well, now I think that those endowments might fairly be applied in giving a better education to farmers' and tradesmen's sons than they now get. The new Elementary Education Act will no doubt have the effect of improving the education of the labouring classes, and it is highly desirable that the education of the middle classes should keep pace with them; and perhaps it might be well if, after the manner of the county of Devon, a committee of five persons, well qualified for the work, were appointed to consider with the commissioners under the Endowed Schools Act as to the best manner of utilizing these endowments. There is just one other subject which has very lately come to my knowledge; but as it is one of considerable interest to both landlords and tenants, I will venture to occupy your time for two or three minutes. Well, gentlemen, I heard the other day of a case which occurred, not in this county, of a claim being

made of an increase of 20 per cent. in the income tax on a farm, only because there had been no new occupancy or new agreement for seven years, and this claim was made and substantiated on the ground that the value of the land had increased 20 per cent. in that time. Now an increase of 20 per cent. in seven years represents an increase of 100 per cent. in 35 years, and I ask the farmers here present if they consider that their farms do double their value in that time? This appears to me to be a question touching both landlord and tenant, and as far as the prosperity of agriculture is concerned one is synonymous for the other, and thus it is a question well worthy the consideration of Chambers of Agriculture.

Mr. FEGGINS, M.P., said: I feel that justice was not fairly meted to the agriculturists last session in the reduction of imperial taxation. Malt would have been a better reduction than sugar; but now it is hopeless to look for reductions. There will be an increase rather than a diminution of taxation, and I am sure no class in the country will more readily concur in supporting at any sacrifice the honour and dignity of the country than the British farmer. No doubt legislation will tend early in the direction of the withdrawal of children's labour. Then comes the question, Can the labourer afford to lose the product of the children's work? I doubt not. The consequence would be that the parents' wages must rise. But this involves the next question, Can the farmer afford the necessary rise? I fear not, looking at the limited profits of agriculture. Well then, who must bear it? I think the landlord; but only for a limited period; for, in this advancing age, agriculture, like manufactures and commerce, is susceptible of the advantages to be derived from increased intelligence in the masses. One of the subjects for early legislation is the licensing question. While it would be most unjust to shut up houses in which tenants have invested their whole substance in the faith of existing laws, and utterly ruin them, it is possible to regulate the traffic in intoxicating liquors by reducing the number of houses in which people are allowed "to be drunk on the premises," and compel the liquor to be sold over the counter, and taken away. This course would take away much of the temptation to tipples, and prevent those pernicious assemblies where poaching and other crimes are concocted by the bad characters in the district. Great good would, I conceive, be accomplished by abolishing the prevalent practice of paying part wages in beer. In an adjoining county the allowance is four pints of ale and eight pints of beer, and in Suffolk it is five pints of ale and small beer unlimited. Whether in this case it would extend beyond the twelve pints I know not; nor do I know the quality of the small beer, but would it not be better to pay for both, great and small, in money, and leave the man to do as he pleases? He might not spend it all in beer, and probably would enjoy some of it with his family at home. The labourers' homes have been alluded to, but I doubt if any great improvement will take place while the question is only considered as one of philanthropy. The important point is to discover how improved dwellings can be carried out as a fair and reasonable investment; and as in agricultural districts the price of the land would not form any appreciable amount of the rent, I believe it may be done so as to let greatly improved cottages at 1s. 6d. to 2s. a week. I trust there will be no necessity for legislation on the question of game. I have such reliance on the good feeling of the landed proprietors that I am confident, as a body, they will do what is right and consistent with the spirit of the age; and I think the tenant would never desire to shut out his landlord in the fair pursuit of game. But the system of letting shooting to strangers from London and the other large towns is very objectionable, as they have no sympathy with the tenant, and care only to fill their bags, regardless of every inconvenience or injury. There is one more subject upon which I wish to say a few words. There has recently sprung up a cry for reciprocity, or protection to native industry. Now, there could be no objection to inquiry into the whole subject of free trade; but this is not what is asked by the advocates of inquiry, for at all meetings on the subject the question of food is ignored, and the pro-

gramme is that Coventry weavers are to eat Shropshire bread wholly untaxed; but when Shropshire farmers and the inhabitants of Shrewsbury, depending upon agriculture, desire to decorate their wives and daughters in silks and ribbons they are to pay to Coventry weavers an enhanced price by means of protective duties. This would not be justice. Certainly, it would not be reciprocity. No, if protective duties are to be again imposed, they must be upon all industries; and where is the statesman who would re-impose a tax upon the people's food? The farmers now gracefully bowed to free trade, and I would advise manufacturers to look upon it as an accomplished fact, and have faith in their industry and energy.

Mr. BOWEN JONES said I think it cannot be wondered at if I rejoice in the success that has attended our efforts, and that I feel satisfaction in the fact of our Chamber of Agriculture having progressed to its present position, and having so fully answered the expectations of its promoters. And, perhaps, I shall not be altogether out of place, if I advert shortly to our proceedings in the past; but I would here say to those critics who continually cavil at farmers succeeding in nothing they undertake, that a fair review ought to satisfy them that our organization has accomplished some, and gone far to advance the other different objects we have had in view. Impatient and ignorant men think that the power we possess should be so great that we have only to ask for a particular privilege from the House of Commons to have it, and conclude that if we don't get it at once we are of no use. Those who take the trouble to work out matters that affect our interest, know that they must first of all make a good case and prove an injustice, but they know perfectly well, also, that we have been heretofore so far in the background that such associations as ours merely put us upon an equality with similar institutions in commerce, that have been labouring patiently for many years, that have not only got the start of us, but have secured more unity than we have as yet acquired, unity not only of person, but of that other necessity for successful action in any undertaking, unity of purse; also, that as a rule, they have used more application than those connected with the land have as yet as a body. What is the consequence? During the past fifteen years the interests they represent have secured a reduction of imperial taxation to the extent of many million pounds, while agriculture has had no concessions made her, and consequently, as other interests have had taxes remitted, and we have received nothing, we have been actually burdened in adverse ratio to their remissions. Well, we have taken in hand since our formation the following subjects, viz.: In the past half-year, The Over-preservation of Ground Game and Compensation for Unexhausted Improvements; and before that time, The Foreign Cattle Question, The Malt Tax, The Abolition of Turnpike Gates, Local Taxation, Education of the Labouring Classes, Weights and Measures, and a variety of other work, such for instance as the attempt made to induce the Royal Agricultural Society of England to visit Shrewsbury this year, and other business of a detail character, and I have no hesitation in saying that on most of these questions a better understanding exists, and that the discussions of some of them, which have been questions between landlord and tenant, have been conducted in such a way as to remove any impression that the farmers of this county want to insist on anything more than what is fair and reasonable for the successful occupation of their land and its improvement. Such questions as game and Tenant-Right must be dealt with before agriculture can expand to its full extent, and it is better for landlords and tenants to discuss such matters openly and dispassionately together (for there is more than one side to them), than for ill-will, distrust, and failure to attend the evil practice of over-preservation of game, or to succeed the bad farming that is fostered by the custom of holding land with a six month's notice to quit, without any proper agreement or compensation clauses. This is not the place to enter into a discussion on them, but I would remark, as a tenant farmer, that I consider such questions must be looked into with a view to secure the landlord from damage as well as the tenants from loss; and I say for myself, and proclaim it too on behalf of this Chamber of Agriculture, that I do not wish to wrest power and privileges from one class only to confer it on another. What I ardently wish for, and what I will devotedly work for, is to remove all the trammels that now bend down agriculture and prevent her progress and development. When her fetters are

struck off, and I trust I may live to see the day, not only will the three classes most directly interested in the land—viz. the land owner, the tenant farmer, and the labourer—be benefitted but the community at large also. With regard to the foreign, cattle question, our organization has almost entirely to be thanked for the efficient arrangements now carried out, and if they are only extended a little further they will be entirely satisfactory to us. With the malt-tax we have not done much the present Chancellor of the Exchequer's Barley Sprouting Bill, and Mr. Gladstone's Malt for Cattle Bill, being the only concessions made. I have not myself tried either, but I don't think we shall derive much benefit from them. This subject has been well ventilated and is thoroughly understood; it is a question that only wants deciding by action in the House of Commons. Most of our other debates have been on matters more or less dependant on the great question which at present occupies our minds, which we must continue to agitate and press upon the attention of our members—I mean the great question of Local Taxation. Thus the abolition of turnpike gates now throws the burden of the maintenance of the roads upon the parishes they run through, or I believe from about this date, on the highway districts—that is to say, the ratepayers, or, in other words, to the greatest extent, the tenant farmers will, as the law now stands, have to pay for their being kept up. The education rate, where required, by the new Act is levied on the basis of the rateable value of the parish also, so here the farmer has to pay again. These matters, therefore, are greatly influenced by the fairness or otherwise of the incidence of local taxation. And how do we stand in this respect? It is not necessary for me now to go deeply into the question, as it has already been considerably touched upon. I will merely, therefore, allude to it by stating the figures given in a recent return. In 1868, £16,783,000 was raised upon the rateable value of land and houses, which amounted to about £100,000,000. Property tax was paid upon a sum of about £300,000,000. Therefore one-third of the wealth of the country paid, two-thirds escaped. Since the year 1837 the burden of local tax has doubled. Over eleven millions, out of the sixteen levied in 1868, are used for imperial purposes, such as militia, keeping of lunatics, police, &c. These are rather startling figures, and as the proportionate payments of real property are yearly increasing, it behoves us to be up and doing.

Mr. MORE referred to one of the officials of the Central Chamber having started a publication, and said they were probably aware that the Central Chamber had been considerably criticised by the agricultural press during the past year. The Central Chamber was ready to profit by suggestions, that when it found six provincial Chambers of opinion that its constitution could be amended, it appointed representatives of those six Chambers to confer with five of its own on the reform of its constitution. He ventured to think it would be better in the future for the Central Chamber to hold more meetings for business and fewer for discussion, and that the district Chambers should send as delegates members who were sent to represent them long enough to become used to the rules of debate. He had carried a new rule that the March meeting should extend over a couple of days, the object of which was to enable members of any deputation that might visit a minister plenty of time to concur amongst themselves as to the arguments to be used before him. When the farmers went to Mr. Lowe on the malt tax they had notice at eleven of the same day that the Chancellor of the Exchequer would receive them at two, and they made an impression on Mr. Lowe, who received them more favourably than any minister had done before. The Central Chamber was merely a means to an end, an agent between the country chambers and the House of Commons, in which, chiefly as their late president, Mr. Tomline, had so often said, they must work for carrying their measures. But a Central Chamber ought, in his opinion, to be conducive to that unity of feeling so difficult to obtain among agriculturists, who were often unduly impressed with the requirements of their own particular locality. He would venture to say, even before a Chamber which he believed felt less interest in the question [than any he could address, that he believed the introduction of the representative element in county business the most important question, and the one most likely to soon pass into law of any the Chambers had ever taken up. He would briefly allude to this question, because attention had been lately called to it

by a magistrate of great experience in poor law, who proposed in Montgomeryshire to petition Parliament against the representation of ratepayers in county business on the ground that they could not make magistrates more economical. Proceeding to local taxation, he was not surprised that the increase of rates made people look for their relief by increased grants, or by their being spread over a larger area for collection. But he could venture to recommend them to master the subject rather than to suggest a remedy. He would advise them to consider well the general remarks made on the subject. One important one was made by the present Prime Minister when Chancellor of the Exchequer, before he was in Parliament, but he was surprised that no one had criticised such an important remark. Mr. Gladstone said that landed property had doubled in value since the repeal of the Corn Laws. That was perfectly true, but it has by no means generally doubled in value. In fact the duplicate was chiefly composed of property near towns, and there were many parts of Shropshire that had hardly increased in value at all. On the other hand it was quite fallacious to represent the increase of rates as falling on all land equally, for by a recent return it appeared that the incidence of local taxation was 16 per cent. on rental in the metropolis, of which the hon. member for Shrewsbury (Mr. Figgins) had spoken, 20 per cent. in cities and boroughs, and only 11 per cent. in counties. He mentioned these facts to show how much consideration the whole question required. Mr. Dudley Baxter, an eminent Conservative, was reading a paper that night in London on the incidence of taxation. He had published a book on the subject, in which his conclusion was that ratepayers were prone to consider the taxes that affected themselves apart from general taxation. If landlords and farmers were struck with the burdens on land, holders of general property were equally impressed with the grievances of the legacy and probate duty. He advised them to consider taxation as a whole, in which he (Mr. More) concurred. But it was clear that the education of farmers' sons must go beyond the village schools: the education was necessary if they were to enter into those difficult questions. Mr. Figgins thought it most objectionable to rent-shooting, but he would venture to say the farmers, much as they disliked the practice, would make exception in his favour if he rented shooting as a London citizen in the neighbourhood of Shrewsbury. Should he have any conscientious scruples in doing so, he thought they would best be allayed by his following the example of other game-preservers in the county by sending his game next year to the dinner of the Chamber of Agriculture (much laughter).

Mr. ATCHERLEY said: I am afraid it is a habit to expect too much from Chambers of Agriculture. I am aware as to legislation their results are *nil*. That great question, the repeal of the malt-tax, has not yet been carried, and I venture to repeat the language I made use of at the first annual meeting of this chamber, four or five years ago, that it never will be, until taken up as a national question. With regard also to county financial boards, after having been recommended by a committee of the House of Commons; after having formed part of the pledges of members to their constituents; after having been prepared for by most counties, it seems fairly to have gone to sleep, and when it will emerge from the realms of Morpheus seems very doubtful. With respect to the question of local taxation, we have the valuable assistance of the courts of quarter sessions. I wish a satisfactory measure was passed on the question of game. We have been more successful in the Contagious Diseases Act; in the metropolis the plan of separate markets and quarantine was carried out.

Mr. EVAN DAVIES said the day may arrive when we shall be shut up in our island home wholly dependent on our home supply for feeding our people. I am old enough to remember when it was so, when wheat sold at 32s. per bushel, and beef and mutton 1s. per lb., and that too at a time when our population was little more than one-third what it is now, and what has been may be so again. It, therefore, behoves all connected with this question to inquire what stops there are in the way to prevent the full capabilities of the soil being brought into action, and I, as an old farmer, am bound to say there are many. Let me therefore beg of you to see to it; remodel your system of letting your farms; remove all restrictions on the energy of your tenants; annihilate the vermin which now destroy and deface their crops; give them a good and liberal scheme of compensation for unexhausted improvements, and

do away with the obnoxious system of six months' notice to quit; don't let your farms to men you have no confidence in, and when you have made the selection give them free liberty of action; if they are worth having they will best know how to cultivate their farms. I was forcibly struck the other day in reading a letter in the public prints from a Scotchman of Fife, and, as it was addressed to the chairman and members of Chambers of Agriculture, it is the common property of us all: it was on the home-grown food. The writer goes on to show that all we produced last year, with all we imported, fell short one-third of a health-supporting supply, supposing the food had been equally distributed to all; and he also showed that by a better system of agriculture Great Britain might not only become independent of a foreign supply, but also make provision for an increase of 3,000,000 to our present population. I will not weary you by repeating all the statistics by which this writer arrives at his conclusions. I will mention two of them. He says by a better system of cropping an increase of home-grown food in money value, amounting to £183,100,000, might be obtained, and by the abolition of the Game Laws £10,000,000; and Mr. Mechi, in his admirable essay (as read at the London Farmers' Club) on the Undeveloped Resources of Dry Land, says that the home supply might be doubled; and I am not at all disposed to doubt the assertions of these gentlemen. I daily look upon a large estate in front of my house that is a complete wilderness of waste, which does not produce a sufficiency of food for the people that live, or ought to live, upon it. Another large estate in my neighbourhood, is become in such bad odour from formerly being overrun with ground game, and from the exaction of excessive rents, that none but hand-to-mouth tenants will seek occupation upon it, its cultivation being miserable, and I have no hesitation in saying that three farms of 400 and 500 acres, adjoining these estates, produce more food for the people than four times the acreage of these impoverished estates; and is this to be tolerated with our fast increasing population? Are we to continue to send our best labourers abroad to enhance the power of the foreigner, to increase his supply to compete with us in our markets, instead of employing those labourers at home, and thereby increase our own supply? Are we to continue to send our gold abroad to enrich the foreign farmer, instead of ramifying that gold through our own labourer, and thereby enrich ourselves? No doubt the owners of these impoverished estates say they have a right to do as they like with their own. Government has thought differently in Ireland, and if our home supply should fail to keep pace with our population, and the foreign supply crippled by the gigantic war now raging and others looming in the distance, Government may take it into their mind to inquire if there are any obstacles to an increased home supply, and they will have ample evidence to prove that great obstacles do exist. The want of security checks the flow of capital, restrictions as to cropping incompatible with energetic action, the food of the people destroyed by vermin, and the cultivators weighed down by an undue share of local and imperial taxation, these and numerous others will prove that the time has arrived for legislative interference, and the cry of doing as I like with my own will be no longer tenable. I hope, my lord and gentlemen, I have kept within the bounds of fair discussion. I can have no other object in view but that of creating a necessity for enlargement of your pockets as well as our own; but before I sit down I will give you a homely illustration of this doing as I like with my own. Take a labourer, for instance, with a good garden, which he refuses to cultivate, and allows it to be overrun with weeds, and contents himself by buying his vegetables and fruit from his neighbours. You remonstrate with this man; he tells you he has a right to act as he likes. Just so; but I think you would tell that man that he was not only unwise, but unjust to his family; and if landlords forbid their tenants to plough within a yard of the hedge to have a cover for game; if they forbid the use of the reaping machine in order to have a covey for partridges; if they neglect to carry out the permanent improvements on their land, and refuse to give their tenants security to do so, their landlords may say they have a right to do as they like; but depend upon it the people will say what you said of the labourer, that such landlords are not only unwise, but unjust to their families, and traitors to their country.

NEWBURY FARMERS' CLUB.

At the monthly meeting, Mr. S. Wentworth in the chair, the following Paper was read by Mr. HENRY FRAMPTON, of Waterhip, on "British Agriculture: the Present Position of the Tenant Farmer."

In introducing this deep and fertile subject, I would first remark that it is not my intention to take more than a cursory view of the different points brought forward. The opinions I advance I offer as my own only, leaving it to those practical gentlemen I see present to correct and amend. I intend to refer to no special individual case, but take the whole collectively. My remarks will apply more particularly to those districts with which I am acquainted and can speak from experience, namely, Berks and the surrounding counties. To come then at once to our subject, "British Agriculture." What is it? I reply—The backbone of our country, a great and noble reality, well worthy the untiring energies and zeal of its disciples, because never exhausted, and always capable of continual and extended development. Let us then consider what are the principal impediments or hindrances to a full development of the agricultural resources of this country. I take the following to be amongst them: 1st, Insecurity of tenure; 2nd, Absence of a just and equitable system of Tenant-Right, which would include compensation for unexhausted improvements; 3, Illiberal and unnecessarily restrictive covenants; 4th, Undue burdens upon land in shape of rent, labour, and taxation (including rates); 5th, Over-preservation of game and rabbits; 6th, Insufficiency of cottage accommodation and suitable farm buildings; 7th, Competition with all the world upon an unfair basis; 8th, Insufficiency of capital; 9th, An unjust and inequitable payment of wages. 1st. "Insecurity of tenure." By it I mean liability to be turned out at any time, either from the death of the landlord, the tenant's death, or any other cause; in the second event would be included the widow's (if any) liability. It is evident to all that this insecurity acts as a great check to the application of capital to the soil, unless there is some redeeming feature, and that all who study their own interest will not invest more capital than is really necessary on the land; consequently it is not so productive, and there is not the return there might and ought to be. This difficulty is best met, in my opinion, by a good lease, or by "a just and equitable system of Tenant-Right which would include compensation for unexhausted improvements." Then capital may be invested on land with far more safety than otherwise; and surely it is the bounden duty of the farmer, who has others dependent on him, to see that his capital is invested with security. The next point I consider a great hindrance to the farmer, namely, "Illiberal and unnecessarily restrictive covenants." As the interest of both landlord and tenant ought to be one and the same, so I cannot but believe these are disadvantageous to both, and that it would be to their mutual interest to abolish them. With the necessary restrictions and conditions at the end of a term, what else is required, excepting that the land shall be farmed according to the rules of good husbandry? I feel satisfied landlords would be no losers, but rather gainers, as land would generally be farmed well and left in far better condition than it is now. What a fallacy is that now existing in so many covenants—"and will not sell hay," "and will not sell straw," &c., when the manorial refuse of either of these is, I believe, 30s. per ton, whereas that of either maltdust, or cake, or about beans is about 75s.; a benefit of something like 150 per cent. to the land! Why if he (the tenant) were allowed to sell such by bringing back an equivalent (which he would be compelled in self-interest to do) the land would be trebly benefited. Again, look at that absurd restriction, "and shall not seed vetches;" why, if that is carried out, the tenant will seed peas, beans, or something else instead, and often much to the detriment of the land; for many a farmer plants an extra field of vetches on land in good trim, to feed in case he should be short of keep, and if not to seed, and more often it is fed than not; there are many such-like unnecessary and useless restric-

tions; the time is come for such to be swept away. 4th. "Undue burdens upon land in the shape of rent, labour, and taxation. It is generally acknowledged that land is now let at more than its value in many instances, and why is it? Simply because the demand is greater than the supply. We can not much wonder, under such circumstances, at landlords requiring a high rent; still, if they know the value of their land, I question the policy of fixing the rental at more than it is worth. Labour, with the farmer, is an ever-increasing item that cannot be stemmed, neither is it the wish of employers to beat down labour, provided they can get "a fair day's work for a fair day's pay;" but as a rule they cannot. Labour is, to a great extent, "eye-service," and therefore very dear. This is partly accounted for, I believe, by the unsatisfactory system in vogue of paying men by the day, or like, instead of what they are worth. There is another light whereby we may look on this labour question, namely, if the employer has to pay 75 per cent. in rent and taxation, there can be only 25 per cent. left for the labour. I don't mean that these figures shall represent the exact case, but only use them as a similitude. Now for our friend "Taxation"—taxation of all kinds, local to mind and pocket! year after year increasing, and most likely continuing to do so. I cannot wonder at our poor-rate increasing, for if we are not "educating" people to be paupers, I know little about it. Burdened as land already is, yet additional burdens are now threatened; a considerable education-rate stares us in the face, and how is it to be paid? is probably a question with many. I do not object to all fair legitimate taxation, provided all stand upon a fair footing, and all property is made to bear its fair share in the taxation of the country; but, alas! it does not. I hope the time, through the efforts of Sir Massey Lopes and others, is not far distant when it may be made to do so. While on this subject, I cannot help remarking on what I consider to be a most unjust thing in connection with taxation, namely, the bearing of all game prosecutions, commitments, and maintenance by the country. Gentlemen who preserve game can afford to protect it in every way. If a poor man loses his pig or what not, he must bear all expenses attending the prosecution; surely this is not justice. The police are also now, to a certain extent, gamekeepers. By the (5th) over-preservation of game and rabbits, temptation is placed in the way of the poacher at the expense of the ratepayers. No man ought to take a game farm—by this I mean excessively preserved—with the idea of making a profit, for, whatever the rental, it cannot be cheap. Many a broken spirit, and many a ruined family now mourn the effects of it; people do not know what it is till they try it. What bitter feelings has it raised and engendered, and what evils has it been productive of! Let gentlemen preserve their game by all means, if they please, but let them bear all the expense of preserving and maintaining it. 6th.—Insufficiency of cottage accommodation and suitable farm buildings. That these are very important requisites to the farmers, and that there is great lack of them, none, I think, will deny; even landlords themselves admit it, but unfortunately, in many instances, there it ends. As a rule, feeling the great and absolute necessity there is for both cottages and good suitable buildings on a farm, tenants will generally, I think, be found willing to meet their landlords in this matter, and pay a fair per centage upon all capital judiciously expended in these improvements, to carry on a farm both profitably and comfortably, some cottages are an absolute necessity; where there is an insufficiency, greater recourse must be had to the hiring or "cot" system, by which I mean the collecting together of single servants—young men and boys—into a single cottage; this is not a satisfactory system, and the bringing together of several young heads, without much control or supervision, is often productive of evil; if most are steady and respectable, too often there is a "scabby sheep" among the flock, and then we can imagine the effects of his influence upon the others. Further comment from me

on this subject is unnecessary, for it has often been brought forward by more able hands than mine—by Mr. Darke and our Chairman especially—and long may we hear them continue fearlessly to press upon landlords the necessity of listening to this matter. 7th. Competition with all the world upon an unfair basis. This does not require many words from me. I do not object to free trade in the least, provided it is free. Till the malt-tax is repealed this will not be; no country can compete with Great Britain in barley, yet here is one of our great cereal productions hampered with an excise restriction of about 70 per cent. The last one shilling duty has been taken off foreign corn, so that now the foreigner can compete with us who maintain the revenue, without paying one farthing towards it, and not only that, but he also draws a considerable amount from our coffers for foreign lands—very probably a portion of it is returned expended in the manufactured productions of this country. 8th. "Insufficiency of capital," and consequently not master of his position, is an injury to the farmer. The sound and idea of a large tract of land for little money is perhaps rather tempting, but as a rule that is the land that requires capital; it is not sufficiently good in itself, and too much has been taken out of it to yield any quick or fair return. How many a farmer finds this to his cost, and wishes that he had taken only so much land as he could well manage. If many farmers would employ the capital they now do upon considerably less land, would they not be gainers? As, at present, they are compelled to go on, and are never in a position to take advantage of the markets and times. On an estate known to most of us this is more and more apparent. Tenants come and take a large tract of land with little capital, they find they are deceived, get what they can out of the land, and "hook it," each one leaving it poorer than before, and being in that plight himself. Continual changes occur. I venture to say that if the owner would grant liberal and unrestrictive leases at a rent, keep down the game, and make it worth a good tenant's while to stop, he would ultimately be a great gainer. 9th. "An equitable payment of wages." By this I mean a system of paying men according to their worth, thereby causing and arousing a spirit of emulation and striving in them. Our present system does just the reverse, and tends to drag all downwards. A good labourer is always worth his hire to the employer; but how dear is a bad one! I cannot but think we make a rod to our own backs in the way we now pay our labourers. How is it to be altered I cannot see. Individually we cannot do it, collectively it is a great undertaking. Labour is very costly to the farmer, and to make it profitable we want it good. I am inclined to think we are not sufficiently well educated in the scientific part of agriculture for us to reap the full advantage. If such then are some of the hindrances and drawbacks to a full development of the agricultural resources of this country, the remedies must lie in the opposite or correcting of those hindrances. Let the landlords look out for enterprising tenants, with sufficient capital at command for the land they wish to occupy; and having secured them, grant liberal leases, with no unnecessary restrictions at a fair rental. I say leases, because I do not think anything else can take their place, for these reasons: Every man is but man, death or other changes may take place at any time. If a good tenant enters upon a farm he does so with the intention of remaining there for some years, and therefore it is necessary that he should not fear any change that may occur, but may lay out his capital upon the land without risk, if judiciously applied. In those cases where a tenant or his ancestors has been renting the same farm for many years, and may rest in security of justice being done, or when leases have run out, and a good understanding between landlord and tenant has arisen, leases may not be a necessity, they are rather supplemental cases; but in all general cases leases, if properly managed on both sides, are, I believe, a mutual advantage. After granting fair and liberal leases landlords must be prepared to erect all necessary good farm buildings and requisite cottages upon such terms as shall be agreed upon. I am inclined to think if all farms were let at a round sum, exclusive of rates and taxes (except assessed and income), it would work advantageously to all parties. In the "Agricultural Labourer" I find the following quotation from Pro-

fessor Buckman: "Suppose a landlord has money in the funds, and takes £1,000 out to improve his cottage property, he pays no poor rate so long as it remains in the funds, but as soon as he invests it in cottages the poor rates are 10 to 12 per cent. But if poor rates were properly arranged, so that all property should bear its fair proportion, 2½ to 3½ per cent. instead of 12 would cover the whole;" and he goes on to say, speaking of improved cottages; "This improvement would lower the rates considerably; there would be less sickness, less illness, fewer illegitimate children, less unpleasant concomitants with reference to our parishes." Having thus passed in review some of the hindrances with the remedies connected with British agriculture, let us proceed to consider what is of no less interest to ourselves, viz., "What is the present position of the Tenant Farmer?" I think it will not require a deal of beating about or tacking to windward to get at his real position, neither need I dwell long upon it. By position, I mean in a pecuniary sense; in short, has farming latterly been a profitable occupation? To take the last ten years, from 1860 to 1870, has the tilling of the soil been a profitable business? I say not. I venture to assert that if every occupier of land of these surrounding counties had kept a fair and correct balance-sheet for each year, and if every such balance-sheet were brought together and a general average for the ten years taken, there would not be upon the whole capital employed a profit of—shall I say 10 per cent. or 5? I will go still lower and say 2½ per cent. If this is thought to be a wild assertion I hope I shall be corrected. I refer not to my own or any individual cases, but to the whole surrounding district as stated. Is there then a sufficient inducement in this respect to enter upon it? Decidedly not. If a diligent frugal man spends the prime of his life for such a return is he doing what he ought? I think not; he certainly ought to make a return of at least 10 per cent. Lower as I am of agriculture, it will be my endeavour to persuade those with whom I have influence not to embark in it, unless a brighter prospect appears. I do not mean to say that each or any individual has only made 2½ per cent., there have of course been variations as in every case; some few have doubtless made more and some a great deal less. In the above calculation or advancement let it be understood I do not include housekeeping or any private expenses, but merely the outgoings and incomings on the farm. It would be well for those who fancy such great things for agriculture to bear in mind what influence untoward weather of all kinds has upon the farmer; his men must be paid anyhow; his flocks and herds must be kept and fed if at a loss; his crops are all exposed to extremes of weather, either wet, cold, or drought, blight, and such like, and many other things unseen and unthought of by those not engaged in it. Weather and seasons must have a great influence for weal or for woe upon the farmer. If such then is a true description of the present position of "British Agriculture and the Tenant Farmer," many may be disposed to look upon it as a hopeless case; but no, it is not so. Remove the obstructions now unfairly existing upon land; let all property bear its fair share of the burdens of the country; place agriculture upon a fair and satisfactory footing, and I imagine I foresee a bright future yet in store. Agriculture is not yet fully developed: see the advancement made in late years. What with the aid of steam and the enterprising spirit of the age, I believe much more may be done than ever yet has been. A vast amount of capital is ready even now to be expended in all permanent improvements, and only waiting to be called for, and as fast as all drawbacks and impediments are removed, so fast will increased capital be brought to bear, and increased productiveness and fruitfulness be the result. I will refer to the farming of Mr. Prout, at Sawbridgeworth, in Hertfordshire, and most of us are acquainted with an estate near, occupied by the owner, where the improvement that has been made is great. Originally poor land, thoroughly drained and cultivated, now doubled in value; all necessary hedge-rows and woods removed, good and suitable cottages in sufficiency erected, with first-rate farm-buildings, and in fact improvements made in every needful way, doubtless at very considerably expense, but probably remunerative in the end. I allude to Mr. Foxe's estate at Adbury.

THE DORCHESTER FARMERS' CLUB.

THE CULTIVATION OF FLAX.

At the meeting of this Club, Mr. J. G. Homer in the chair, Mr. DAMEN said he felt a difficulty in introducing the subject, inasmuch as practically he was supposed not to be so well acquainted with it as were some of his friends. For three thousand years all civilised nations had cultivated flax. In several places in the Holy Scriptures flax was mentioned; there was the best possible evidence that the fine linen referred to in the Bible was made from flax. It was an extraordinary fact that even in those early days flax was manufactured to the greatest possible perfection, perhaps better than any machinery of the present day had been known to work it. By microscopic examination it had recently been ascertained that the cloth in which the mummies of Egypt were enveloped was linen. Some of the linen used three thousand years ago might have been of a rude description, but it seemed to have been extensively used, for it was a fact that all the mummies produced, including those seen in the British Museum, were covered with linen made from flax; some of them had as much as 60 yards wrapped round them. The linen taken from the mummies of Egypt had been converted into paper. It was rather extraordinary that all civilised nations should have cultivated flax and been clothed with it. Egypt was the great country of its cultivation, Herodotus speaking of its great flax trade; even in the present day great quantities were grown there. The lowlands by the banks of the Nile were adapted to the growth of flax; there it flourished most. In the hot countries especially the people were chiefly clothed with flax, while in the cold countries wool was used for clothing. Regarding the introduction of flax into this country the period was not very clear; but it was quite evident that it was not brought here for a considerable time after the period to which he had just been referring. Prior to the civilisation of England, when the people were savages, they clothed themselves with the skins of animals in winter, and painted themselves in summer. But when Christianity was introduced they began to clothe themselves in a Christian manner—perhaps more Christian than in the present day—and flax, on its introduction, soon became extensively used. There was no machinery to manufacture it in those days, but it was spun by the matrons and maidens. For a great number of years, not only in foreign countries, but in this country also, it was spun, and with it the people were clothed. It was considered a duty that every person, high and low, should have the distaff and the spindle for working flax and wool, more especially the former. It was related of King Alfred the Great, who lived a thousand years ago, that he told the Queen of Persia that the robes which he wore were not only presented to him by his sisters but also made by them—thus showing that all classes were skilled in the use of flax. In the present day they knew nothing of spinning a yarn, except the sort he was now spinning, and which he thought would be unravelled before he went home. So important was this flax that every fishing net had been made from it; from the time of the Saviour to the present period, for 1,800 years, the nets which had caught fish for feeding countless millions of people had been manufactured from flax. This showed the importance of the article. He was about to speak to them on the necessity of growing flax, which was so much required in this country. He was indebted to his intelligent friend Mr. Suttel, of Pymore Mills, Bridport, for furnishing him with some particulars with respect to the quantity of flax imported into this country. The quantity yearly imported at Bridport Harbour alone—and it was chiefly Russian—was about 1,400 tons, the value of the same being about £80,000. A considerable quantity was also received from Bristol and other places by railway. Besides the above, Mr. Suttel estimated the quantity grown in Dorsetshire, Somerset, and Devon—nearly the whole of which was consumed in the neighbourhood of Bridport—to be annually from 400 to 500 tons, which they would observe was only about one-third of the quantity imported at Bridport Harbour alone. Indeed he (Mr. Damen) believed that last month there

were foreign vessels in the harbour discharging at the same time flax of the value of £50,000. In England in 1868 the quantity of flax grown covered 15,828 acres; in Wales, 169 acres; in Scotland, 1,546 acres; in Ireland, 206,446 acres—total, 223,989 acres, being about 50,000 tons. It would be observed that the acreage in Ireland was more than ten times that in England. Notwithstanding this extensive produce, however, the importation in 1868—and it was a fact well worth attention—amounted to 90,833 tons, or nearly double the amount of the whole produce of the United Kingdom. The value of these imports was nearly a million, or to speak within the mark £750,000. He (Mr. Damen) apprehended that however much flax was grown in England, there would always be found a market, and a ready market, for it. The demand was extraordinary. This county, perhaps, had become the best market in the United Kingdom; the only wonder was that where the land was adapted for the growth of flax so little was grown. In Ireland growers had often to send 40 or 50 miles to a scutching mill. It was strange that the market at home was not better supplied from places where the climate was adapted to the growth of flax. "Coker sail cloth" was known throughout the world, and the reputation of Coker was such that sail cloth manufactured at Bridport was said to have come from "Bridport, near Coker." Coker then had an established fame. It was an extraordinary thing, he thought, that considering the great demand, there was under cultivation in England a less quantity than 20,000 acres. He could not help thinking that its cultivation must be more or less profitable. If farmers would only take the necessary trouble in getting their land in good order, they might cultivate flax which would realise a remunerative price. It must be remembered that the past year had been one of the worst seasons experienced for a long time. But in the lower part of the county—a field of Mr. Bryant's, at Broadwinsor, 20 acres were sold by auction, and £14 per acre was realised. As regarded the profit arising from the cultivation of flax, it was a well known fact that in Ireland and Belgium men rise from a state of indigence to that of affluence by growing it; he had known, some years ago, many men in the western part of this county grow flax, and thus rise to affluence. He could not believe that the bugbear, "trouble" had restricted its growth. The men of Dorset were ready as a rule to embrace all improved systems of farming, and he could not understand why flax should not be grown because of the "trouble" involved. Indeed everything required trouble to be taken; all improvements took time and trouble. He could not think that the reason why flax had not been more extensively cultivated was the trouble involved; he was rather disposed to think it was because their attention had not been sufficiently drawn to it. For a considerable period the growth of flax was, in the leases granted to farmers, prohibited. But he was sure that time had gone by; they would not now find any intelligent landlord object to the growing of flax, which did not, he (Mr. Damen) knew, deteriorate the land. From his own little experience in growing flax it had been the most profitable part of farming he had ever practised, although it was in the rudest possible way. He had to hire men from the West. It was said that the wise men did not come from the West; but at all events he was sure that wet men come from the West, for he never saw workmen who wanted more beer than those whom he had engaged did. But taking all that into consideration he was quite sure that the flax crop was a profitable one to him. He grew good flax and good turnips, and wheat sown the same year turned out a good crop. The old way of scutching the flax was an expensive way, but much improvement had been effected lately. He was not sure that under the new system the quality was much better; but they were certain to have it more regular under that system than under the old one. A visit to the scutching machine of Mr. R. Smith, of Stafford, would show them the perfection arrived at. The machine

was simplicity itself. There was nothing in it except a cylinder with a certain number of wooden swords turning round to knock the woody core out of the flax, which was the same principle as that of the other machine. Last week, at Mr. Brown's at Seavington, he saw a useful machine driven by steam, with which he was much pleased; six men attended by two boys were engaged at it. There was none of the drying system by fire. The sheaves were passed through rollers, half the length of the table now before him; one boy was feeding at the end of the rollers, and the other boy handed them to the men as they passed through. The men stated in reply to his inquiry that they earned 7d. per dozen of 12lbs., and that done under the old system the same quantity was worth 14d. Each man did at present about seven dozen per day, thus gaining about 4s. 1d.; but after the boys had been paid the net wages reached about 3s. 6d. daily. He then examined the little humble engine which was at work driving all the machinery. He found to his surprise that it never consumed any coals. What then did it burn? Why the "skimp" or woody core from the flax kept the engine going. Thus there was not a farthing expense incurred in fuel, which was of course a very great consideration indeed. The work appeared to him to be perfect as far as he could ascertain. The steam was used for other purposes, and the waste steam was driven into troughs of roots, chaff, &c., for stock. Climate, he well knew, was an important matter in the cultivation of flax, but he felt that theirs was as well adapted as that in any other part of England. Their climate was generally moist, and they did not suffer from the extensive drought which prevailed further eastward. He was sure that it was better here than in Ireland, where the seed could not be so successfully saved, nearly the whole used being imported from Riga and Belgium. Contrasted with this, in England the climate was adapted for the saving of both seed and flax. It really did seem to him that it would be a grand thing if the money sent out of this country could be saved in any way. Could not, for instance, a portion of the money sent out of Bridport—£80,000 or £100,000 a-year—be saved? Surely such a saving would be a national benefit. And not only that; but who could tell what would be the effect of war? Therefore, it was not well to depend so much upon Russia, or any other country, for our supplies. We depended upon Russia for flax, as we had depended upon America for cotton; and when the supply of the latter was stopped, in consequence of the internecine struggle which took place, we had to send thousands of pounds to the north for the relief of the cotton spinners. Cotton could not be grown in this country; but we could grow any quantity of flax. If a war should unfortunately break out between England and Russia, what an advantage it would be to grow flax more extensively at home! With regard to the £80,000 or £100,000 sent annually out of the country for flax, how much of that money could be spent in labour? He believed about one third. There was the great fact that the population of the country was rapidly increasing. Here, then, were the means of providing for the surplus labour—let more flax be cultivated. He would not, however, recommend extensive flax growing where there was a scarcity of labour, where the number of cottages was small, where there was much trouble in getting men especially at harvest time, because the flax crop came just before harvest. Therefore he would only recommend the sowing, as a rule, of a limited quantity of land. It was said, and said, as he believed, with truth, that flax should not be grown on the same land more than once in eight or ten years—not that it deteriorated the land for other crops, but that some change took place in the soil, rendering it unadapted for the same crop for several years. He was of opinion that one-tenth of a farm might in some cases be appropriated to the cultivation of flax—thus on a farm of 200 acres there could be 20 acres of flax. Mr. Smith, of Stafford, had, he believed, 20 acres. They should thoroughly understand he did not recommend the substitution of a crop of flax for one of corn; that he considered would be the greatest possible mistake for they would require their corn and roots as at present. But he recommended flax as a catch crop. He wanted them to try to meet the increased expenses of their farms. He felt sure there was room for both corn and flax. Respecting the mode of growing flax, he said in the first place, let them not sow it after turnips; it was a well admitted principle that it did not thrive when thus sown, neither should they sow it on foul land, nor yet on exhausted land. In well prepared soil flax

might be grown with the greatest possible advantage after wheat. Let the land be ploughed in the autumn and stay till the spring, when it might be ploughed again if desirable; let the seed be sown at the beginning of March if possible so that it would come up as much before corn harvest as possible. He was quite sure that they might grow good turnips after it. If they could find a crop of flax to pay them £10 or £12 per acre as an intervening crop it was, he felt sure, worth having. The quantity of seeds required was from two to two and a-half bushels per acre. Two bushels were the lowest quantity; about nine pecks were the medium quantity that should be sown. There would, with an average crop on good and useful land in that neighbourhood, be a yield of two and a-half packs, or 50 dozen to the acre, and twelve bushels of seed; that was about the average.

The CHAIRMAN thought they were all very much interested in the subject of flax growing. Many practical men were now growing flax, and could give some information with respect to its cultivation. In the course of the address two or three things had struck him (Mr. J. G. Homer), and he should like to hear them explained. Mr. Damen had made an observation with regard to the farmer sowing 10 or 20 acres of corn land for the cultivation of flax but seemed to think that the crop should be a catch crop. Now to his own mind there arose the question whether or not they could grow turnips after flax in the same year. Mr. Damen had pointed out that by the cultivation of flax the number of labourers on the farm would be increased considerably. There could be no doubt on that point; but he should like to know what would be the difference of labour involved in growing ten acres of flax and that involved in the cultivation of the same extent of corn. Then again, the profit arising from the flax could be placed against that arising from the corn. They must further consider the difference between the value of foreign flax, and that of English flax. Perhaps one of their new members, who was a practical man, would afford them a little information on that point. There were certainly several matters on which practical men could enlighten them. As for himself he was a novice with regard to the growth of flax, and he would now give way to other members of the Club of more experience. He wished that their friends Messrs. Smith had been present, for they had been somewhat extensive growers.

Mr. ROWE, of Dorchester, stated an instance of the paucity of labourers.

Mr. G. W. HOMER had had three years' experience in the cultivation of flax, and had found two out of three crops to be remunerative. While the second crop yielded three-and-a-half packs per acre, the third crop did not yield above a quarter of a pack per acre, and, therefore, was an utter failure. This he found to be the case on light land. Deeper and more suitable soil than that in this neighbourhood was required for the growth of flax with certainty. Plenty of manure was needed in the growth of flax; and he did not think the labour-question was a serious one—there could be no difficulty, he thought, in getting men to do the work. Regarding the question of profit, the present year's crop yielded £19, having cost £8, while the second year's crop was better still, the third year's being a total failure. With respect to another point, everybody who grew flax should not sell the seed, but consume it on the farm. From his own experience, he could speak to its usefulness and value as food for stock of all kinds. Further, it should be borne in mind that a crop of flax was exhaustive, inasmuch as there was no return beyond the seed, which was not a great bulk. Especially there should be no stint in the use of manure; they could not lay out too much in guano—it would pay extremely well to thoroughly manure the land.

Mr. J. C. FOOKS, whose father had grown flax to advantage, spoke to the difference in localities regarding climate and soil, showing the superiority of some over others for the cultivation of flax. What could be done successfully in some parts—Bridport, for instance, was impracticable in other neighbourhoods where the soil was thin, and required to be well-manured. He agreed as to the advantage accruing to the farmer from the growing of a catch crop, provided that the crop was not flax, but an extra crop of turnips. He deemed it of the utmost importance to produce all the food they possibly could for the maintenance of stock upon the farm. There could be no doubt, he admitted, that in certain localities flax could be grown with great advantage, although,

perhaps, not to a great extent. Mr. Damen had suggested the use of one-tenth of the land for the cultivation of flax. Now in certain places—perhaps at Stafford, where Mr. Smith resided, and other favoured localities—this might be done to advantage. But he could not admit that it was desirable or practicable on every farm, and impressed upon them as practical farmers the importance of growing food for stock. No doubt, if it could be shown by any friend how farming could be carried out with profit, they would all be pleased to follow his example. These were his (Mr. Fooks') views on the matter, although he could not speak as an experienced person in the cultivation of flax; for he had never grown any—and they were only his views. He did not doubt that in some cases where there was a large quantity of pasture-land, and where there was a large quantity of stock kept, flax could be grown with advantage to the grower. He coincided with some of the remarks made regarding surplus labour, admitting the advantage of giving labourers full employment; but he sought to impress upon their minds the great extent to which the practical farmer had already his attention engaged, and the importance of not neglecting more important things while attending to flax.

Mr. R. GENGE (the Vice-President) could not say anything to enlighten them respecting the cultivation of flax, about which he knew very little. Mr. Damen's remarks were characterised by good sense, and he (Mr. Genge) was sure that some present would benefit by them if as a result they grew flax in some corner on the farm, and thereby realized an odd hundred pounds or so. He fancied that flax might be cultivated without the farmer suffering any great inconvenience. Flax he could not imagine to be very exhaustive, because it was only in the ground from March to July, and, like other plants, derived a great deal of its nourishment from the atmosphere, the soil not, therefore, being much robbed. He had walked through turnips as high as the table before him, which turnips were grown after flax. Respecting locality he had been struck with the remark that it should be moist for the cultivation of flax, whereas their's was dry. Then, again, flax disliked chalk, and in this neighbourhood chalk abounded. Flax, too, could not stand checking. In this locality they were subject, as they all knew, to spring frosts. If they got the plant above ground, and the frost came, the plant grew yellow, never coming to perfection. These were difficulties, as they were aware, which could not be got over. At the same time, there were seasons when crops of flax could be grown to advantage. As in the case of Mr. G. W. Homer, there were good crops as well as bad ones. If they made up their minds to grow a good crop of flax, they could, no doubt, occasionally do so. The greatest difficulty was summer cultivation, because the drawing and harvesting came just at the time when they were busy getting turnips hoed before the corn harvest. He could not help thinking that in the cultivation of flax there was a little bit of monopoly; if it were not so, why, he asked, were not certain gentlemen present to enlighten them, and if those gentlemen did not find any difficulty in growing flax, why should the rest of them do so? He thought that some of the difficulties pre-

sented might be easily overcome. Why should they experience more trouble in growing ten acres of flax than in the cultivation of the same extent of extra wheat? Then if they consumed the flax seed on the farm, as Mr. G. W. Homer had properly observed, he thought they would derive a great benefit. They did not in these days want men in their barns the winter through, as used to be the case in the days of the flail, which had been displaced by machinery. The surplus labour could be turned to profitable account in the working of the flax that had been grown on the farm. He did not think, from what he had heard, that their English seed would bear competition with the foreign; but he should like some information on the point.

Mr. T. CHAPMAN SAUNDERS knew little concerning the cultivation of flax. From what Mr. Fooks had said, there was the danger of growing flax and neglecting certain other things. It should be borne in mind that they were not recommended to grow flax as a substitute for corn, but to follow the corn crop by a remunerative crop.

Mr. FOOT had grown flax, and found it to be more remunerative than barley. He had shown specimens to good growers who declared that they had seldom seen such good flax. It was sown on the 21st of April and harvested in the middle of July, and he could not say that it was at all an exhaustive crop; he did not think it was. He considered that what fell from the plant just before harvesting was beneficial. He certainly should not look upon it as an exhaustive crop.

Mr. CHAPMAN SAUNDERS would like to know why their friend did not pursue the growth of flax?

Mr. FOOT answered that flax growing interfered with agriculture in a general way.

Mr. CUNNINGTON had heard this mysterious subject debated as if the lives of the parties depended upon the question whether the crop was an exhaustive one; he suggested that the subject itself needed a great deal of "scutching," and that a continuation of the present discussion at another meeting was desirable. He thought that the Messrs. Smith should be brought to book and made to disgorge all they knew on the subject.

The PRESIDENT said when a man had been farming forty or fifty years he did not like to get out of the old system. If he were a young man he should certainly adopt flax growing—if he considered it profitable in farming. The great object in farming was to render it profitable. As had been well observed, successful flax-growing depended upon the soil and the climate. At Upwey, on a new piece of land, in deep black soil, it had answered remarkably well; but if he (Mr. Homer) attempted to grow flax on the higher part of his farm the crop would, he well knew, be a failure. If flax cultivation could with advantage be more extensively introduced into Dorsetshire than at present, let it be done by all means; for the man who made more of his land by employing more labour was a benefactor to his country.

Mr. DAMEN, in reply, said even Columbus would not have discovered America without the use of flax sails.

The proceedings then ended with the customary votes of thanks.

SEED CORN FOR THE FRENCH PEASANT FARMERS.

A public meeting was held on Monday, Dec. 19, at the Salisbury Hotel, Salisbury-square, Fleet-street, "for the purpose," as the notice ran, "of appointing a committee to collect subscriptions in corn and other seeds, to be supplied gratis to the suffering peasants of France, thus enabling them to sow their land, and avoid an otherwise inevitable famine." The chair was taken at five o'clock by Lord Vernon, president of the Royal Agricultural Society.

Mr. BRANDRETH GIBBS, after reading the correspondence which we have already published between Mr. James Howard, M.P., and M. Drouyn de Lhuys, relating to the subject which the meeting had to consider, read a letter from Mr. Howard to Lord Vernon, dated Brighton, Dec. 19, in which the hon. member, after regretting that the state of his health precluded his attendance that evening, proceeded to say: "I would very briefly explain why I was induced to take up the

subject of assisting the French cultivators. In the early part of October I met with friends from France who gave such a description of the desolation wrought by the contending armies, and the utter ruin which seemed inevitable to the farmers of France, unless by extraneous aid they could be supplied with seed wherewith to sow their fields; that after consulting with members of the Farmers' Club, of which I am the chairman for the year, I at once wrote to his excellency M. Drouyn de Lhuys, the president of the French National Agricultural Society, to ask his advice and co-operation. It was my intention on receiving his reply to put myself in communication with your lordship as president of the Royal Agricultural Society, and other leading men in agriculture; but on the very day I received the reply of M. Drouyn de Lhuys, I was seized with an illness which prostrated me for a month. As soon as I began to recover I wrote to his excellency to say

that I felt unable to prosecute the scheme, and recommended him to address the Earl Powis on the subject; for as the Cattle Show was at hand, his lordship, as president of the Club, would have an opportunity of bringing the subject before the farmers of England. I am very glad that the question has been taken up by your lordship and other influential men connected with agriculture, and I have no doubt that the farmers and landed proprietors of England will respond to the call for their aid in a manner not only gratifying to the general British public, but which will gladden thousands of the cultivators of the soil of France, and probably for generations beget in their minds and hearts kindly feelings towards the English people."

Letters expressing regret at their inability to attend had also been received from the Marquis of Exeter, who promised a subscription of £50; Mr. John Clayden, who promised one of £5; Mr. C. B. Amos, Professor Leone Levi, Mr. John Fowler, Mr. Branston, and others.

The CHAIRMAN said: Gentlemen, before calling upon the mover of the first resolution, I will, with your permission, make a few observations in relation to the object of this meeting. You must have learnt long before the correspondence between Mr. Howard and M. Drouyn de Lhuys was read this evening, from the reports in the public papers, what was the origin of the movement which you are now called upon to consider. It is fully described in the letter which Mr. Howard has just forwarded to me; and I am sure that everyone here deeply sympathises with that gentleman, as I do, on account of the illness which prevents him from taking the prominent part which properly belongs to him in this movement (Hear, hear). The presence of so many gentlemen this evening is a guarantee, although I must say I could wish the attendance had been larger, that there are certain leading agriculturists in this country who sympathise in the distresses of our neighbours, and who, with a cosmopolitan spirit, desire to relieve them (cheers). I think it only right at once to say that this movement is totally unconnected with the Royal Agricultural Society; and I am the more anxious to state this, because, from the prominent position which I have the honour of holding this year, it might be supposed that the resolutions which you are about to hear have been taken into consideration by the Council of that Society, and have been endorsed by them (Hear, hear). That is not the case. I have been asked to attend here this evening as an individual, and I no more represent the Royal Agricultural Society than Mr. Howard would have represented the Farmer's Club or Lord Powis the Smithfield Club (Hear, hear). We are all animated simply by an anxious desire to do good to our fellow-creatures in France. Neither has this movement any political tendency. It is necessary at once to warn the public mind against any idea that amid the terrible war which is raging abroad we sympathise in this movement either with one side or with the other. We sympathise merely in the distress under which France is suffering so terribly, and I feel certain that if the same amount of distress prevailed in Germany the agriculturists of this country would be found equally anxious to contribute towards its relief. If we consider for one moment what the horrors of this war are, and remember that in the trail of the army follow desolation, destitution, and misery; and if we try to imagine the effect of a similar state of things in our own country—then I am sure we shall all feel it our duty to come forward and do what we can to alleviate the sufferings of our neighbours (Hear, hear). Nothing can be more terrible than the accounts which we have read in the admirable letters that have appeared in the English newspapers. But if the retrospect of the past and the aspect of the present be terrible, what is there in the future? Not only are large numbers of the people of France at this moment without a home, but they have been deprived of the means of cultivating the soil. Their implements have been destroyed, their seed is gone, and there is no prospect for them in the future but starvation (Hear, hear). I cannot help thinking that if the position of affairs be well understood the great, and I may say prosperous, agricultural body of this country will sympathise with the French agriculturists in such a state of things, and the more so because the French peasantry, who are a gentle, laborious, and thrifty race, are in no way responsible for the causes and results of this dreadful war (Hear, hear). Gentlemen, I need not say any more to introduce this subject to your notice. I feel confident that if you

take up this matter earnestly—if you contribute either in grain or in money to the relief of the necessities of the French peasantry, you will have sown the seeds of unity and goodwill between the two countries in a way that hundreds of years of international intercourse could not have done (cheers). We must, however, in my opinion, be very careful in making our arrangements. It is necessary for our object that we so dispose of the contributions entrusted to us that we shall in no degree compromise the position of the Government of this country, and at the same time strictly ensure that the grain and other articles supplied shall be applied solely for the purposes for which they were subscribed (Hear, hear). They must, in fact, be used entirely for the replenishing of the land and not for the sustenance of the people in food (Hear, hear).

Mr. WREN HOSKYNs, M.P., moved the appointment of a committee of noblemen and gentlemen "for the purpose of enabling the peasant farmers of France to sow their land, and save their next year's harvest." He could assure them that he was not merely using formal language when he said that he felt the greatest pleasure in proposing that resolution; and if there were any drawback to that pleasure it was the fact that his friend, Mr. James Howard, was not present to take a prominent part in a movement, which, to repeat an expression used before, he had so generously inaugurated (cheers). It was not necessary for him to dilate upon that which the Chairman had already so ably brought before the meeting. The objects of that charitable movement, which he hoped would extend throughout the country, belonged to a class which instead of promoting the war would, he believed, if they had had an opportunity, have done everything in their power to prevent it. They should be pre-eminently objects of interest to them, because they were neighbours and allies; and surely under the circumstances of wonderful immunity which English agriculturists had enjoyed from the devastation and the awful scenes of the last four months, there was due from them something in the way of recognition of their blessings, owing to the insular position of this country, and their gratitude should take some practical form (Hear, hear). He quite agreed with their noble chairman, that they were not to be understood as taking a part on either side in that exhibition of feeling, but that it was to be regarded as an evidence of the friendly sympathy of a wealthy country, which had been saved by Providence from the trials which France and Germany had undergone, and that the aid to be afforded would have been equally extended to the other side had it been required (Hear, hear). He was old enough to remember the strong feeling excited in Lisbon by the contributions made by England after that city was devastated by an earthquake. He happened to be in Lisbon at the time; and, although this country was not then very popular in Portugal for political reasons, he was struck with the fact that the gratitude for English subscriptions far outweighed the political dissatisfaction. They had lately had abundant evidence of the immense advance made in the art of killing, in the inventions and improvements of war; and it might be thought that the world was going back, instead of advancing, in civilisation and Christianity, were it not that there had been circumstances which showed that, after all, their influence was powerfully at work in mitigating the severities of warfare. The movement which they were now inaugurating was an illustration of that, and he trusted that it would convey to the minds of their neighbours an assurance of their sympathy with them amid the trials which the war had occasioned, and that the subscriptions of the agriculturists of England would be regarded as a token of good feeling towards the agriculturists and peasantry of France (cheers).

Captain GOODENOUGH, who was introduced as the commander of the Minotaur, and a gentleman who had lately spent some weeks in the neighbourhood of Sedan, voluntarily aiding in the distribution of the French Peasants' Relief Fund, seconded the resolution. He said he was happy to state that he had recently been engaged in distributing the funds collected by the *Daily News* to the French peasants in the neighbourhood of Sedan and Metz. That fund, as the whole country knew, was collected for distribution in the north-eastern provinces of France. Mr. Bullock, however, first went to Sedan and began his distribution; and a committee formed by the Society of Friends undertook a similar work in the neighbourhood of Metz. About Sedan, where there were manufactories, the people were not so purely agricultural as around Metz, where such assistance as that proposed by the committee now

being formed would be extremely valuable and welcome. In that district the farms were not as in other parts of France, cut up into very small parcels, for there were some farms of the considerable size—for France—of 600 acres. Upon this property the steam ploughs which the Society of Friends were sending out would no doubt be able to work advantageously. He most cordially endorsed what the chairman had said with reference to the good feeling which was likely to be excited in France by expressions of sympathy like these on our part; and he could assure the meeting he had never met with anything more grateful or touching than the feelings shown towards those who distributed the *Daily News* fund in the neighbourhood of Sedan and Metz. The people at first thought the relief had come from Belgium; but when they discovered the truth their surprise was only exceeded by their grateful emotion. Already beyond question, there was growing up in the hearts of the French people a deeper friendship towards England than ever existed before. Too much importance could not be attached to the caution to be non-political; and it was very satisfactory and cheering to know that all the efforts which the agents employed near Metz and Sedan had made had been, not only received by the German authorities with great kindness, but seconded by them wherever that was possible (cheers).

Mr. AVELING, of Rochester, said everyone knew that this country when engaged in great works of charity never did things by halves, and he was quite sure the farmers of England would come forward nobly in support of this movement. But it must be borne in mind that the Society of Friends had subscribed £20,000, which was still being distributed, and it was of the highest importance that they should take care not to relieve the same persons. Knowing the north-east of France very well, he brought that subject on the previous Saturday before a considerable meeting of farmers at Canterbury, and those assembled, while desiring to respond to the utmost to the appeal now made and to help forward the movement, did not see how it was possible for contributions of seeds to be warehoused in this country without great expense, and likewise felt that when seeds had been collected it would be very difficult to distribute them among the French farmers, and they came to the conclusion that nothing but money subscriptions could produce the desired effect (Hear, hear). The meeting felt that if a large amount of subscriptions were given in kind the result would be that the seeds would suffer greatly in the warehouse from vermin, and it also thought that lest the required provision should not be made before the end of the war, funds should be collected as rapidly as possible, so that they would be at once available for the purpose. Antwerp was at the present moment over-crowded with corn seeds and seeds of every description, and the owners were only awaiting the conclusion of the war to dispose of them. In the north-eastern part of France agricultural operations were, it should be remarked, carried on by means of oxen, and there were now scarcely any oxen left.

The resolution was then carried unanimously.

Mr. H. CORBET moved the following: "That James Howard, Esq., M.P., be, and is hereby, appointed honorary treasurer; Brandreth Gibbs, Esq., and H. M. Jenkins, Esq., honorary secretaries; and W. H. Delano, Esq., honorary agents in England of the Société d'Agriculture de France." He felt the greatest pleasure in moving this resolution, because he thought that without identifying themselves with the societies with which they were connected, the gentlemen named in the resolution would enable the committee to get at the classes whom it was most desirable to reach. He quite agreed with the supporter of the first resolution, that nothing could be done without money. The farmers of this country ought only to be expected to contribute seeds; but for the carrying out of the very difficult and delicate duty which was being undertaken, there must be plenty of funds; and when he saw the names of Mr. Brandreth Gibbs and Mr. Jenkins, he felt confident that they would be enabled to get at the two great classes of landlords and farmers (Hear, hear). On the one hand the farmers would, no doubt, be willing to contribute seed-corn, while on the other they had already seen indications that the landlords were prepared to do their part in the form of money subscriptions (cheers). There was another great interest—a collateral interest connected with agriculture—which ought not to be overlooked. He felt that, by asking the implement makers to contribute implements, they would rather retard than advance

the object; but at the same time he felt it to be very desirable that not merely implement makers, but seed merchants and the corn merchants of Mark-lane should be asked to contribute money. In that way a machinery could have been set in motion, which it might be hoped would embrace all classes connected with English agriculture.

Mr. ALLENDER in seconding the resolution, after expressing a hope that the work of collection would be proceeded with as rapidly as possible, deprecated any throwing of cold water upon the movement as tending to dishearten those who were engaged on it.

The resolution was then put and adopted.

Mr. ALBRIGHT (of Birmingham) moved the next resolution, viz.: "That secretaries of Agricultural Societies, Farmers' Clubs, Chambers of Agriculture, and clerks of corn and cattle markets be, and are hereby requested to give publicity to the appeal to be issued by the committee, and to aid in forming local committees to collect contributions, and otherwise aid the general committee in London." He was exceedingly struck by the remark of the late Foreign Minister of France (M. Drouyn de Lhuys) that the cultivators of the soil were, like the soil itself, likely to yield a grateful return for whatever care was bestowed upon them. He was exceedingly glad that the meeting had not forgotten the maxim, "Honour to whom honour is due,"—to Mr. James Howard, who was the real starting-point in this movement. The very idea of seed was calculated to awaken the deepest feelings of our nature. A bard of Derbyshire said, in a beautiful poem,

The world's support depends upon the shooting of the seeds.

Most assuredly the support of the French nation in future depended upon this country's finding seed for it. There, in a nutshell, was the position in which French agriculture now stood. While agreeing with Mr. Aveling that contributions in money were desirable, he thought the committee would fail in their object if they confined their receipts to them, or expected large sums of money from the farmers. His own belief was that for one farmer who would put his hand into his pocket and give a guinea, there were twenty who would willingly send half-a-sovereign's worth of seed (Hear, hear). The member for South Warwickshire (Mr. Wise) put the matter in a nutshell when he said the other day that the farmers there had been so drained by subscriptions to the funds for the sick and wounded that it was useless to ask for any more money, and what applied to Warwickshire would, no doubt, apply to other counties. He had just come from the Committee of the Society of Friends, and could promise that all they could do without abandoning their own operations they would do. He had seen a return from one village where there were seventy-six proprietors, and the needs of that village in corn were something like $7\frac{1}{2}$ tons. As regarded the question of railway transit, he had been in communication with Mr. Allport, manager of the Midland Railway, and other railway authorities of high position, on that subject; and although it was no doubt a correct principle that only in very rare and exceptional instances should railway companies spend any of their funds in a benevolent manner, he believed that was a case in which such a course would not be objected to. It should not be forgotten that in one point of view the railway companies were among the largest landed-proprietors in the country. There were altogether 15,000 miles of railway, covering something like ten acres per mile, making a total of 150,000 acres. As, therefore, the railway companies were among the most extensive landed-proprietors, he hoped every facility would be given for the transit of corn; and if the committee could not get perfect immunity of freight all over the country, he believed that in a national movement of this kind there would be some very marked reductions in railway charges, and a low carriage freight would prevail so far as that object was concerned all over the country (Hear, hear). That object was, in fact, one which must commend itself to the good feeling by everyone, and he trusted there would be no difficulty in securing the requisite funds. He had himself obtained from various persons promises of subscriptions which amounted in the aggregate to between six and seven hundred pounds, all to be devoted either to the purchase of grain, or to the expense of conducting that benevolent enterprise; and he hoped that the liberality thus commenced would be widely imitated.

Mr. SUTTON, of Reading, in seconding the resolution, said

he was delighted that Mr. Howard had originated something like a national movement in furtherance of such an excellent object. He knew something of the part of France which had been referred to, and of the habits of the population; and he was satisfied that there was a real necessity for this effort, and that it ought to be at once extensive and prompt. On the 31st of October, immediately after the surrender of Metz, he wrote to a member of a large seed firm in Metz, condoling with him on the state of his country; and in a few days he received from him a reply, in which he said, "I thank you most heartily for your friendly sympathy. Thank God, we did not suffer much ourselves, but the farms all round the district are entirely desolated. The British Society for Relief has already done a great deal of good; and we are most thankful for the kind help which has come." The writer added that the English people should take care to send what was most needed and most useful. That letter was addressed to the firm of Sutton and Sons, of Reading, of which he was a member. He had also seen a letter from an agent of the Society of Friends, who had laboured in the district around Metz. After describing the desolation which prevailed, the writer said, "An area of land about 200 miles in length and 60 miles in width has been prevented from yielding crops, in consequence of the armies marching over it, and the peasants have nothing with which to sow the soil next year." He summed up by saying, "The four great requisites are food, fuel, clothing, and seed-corn" (Hear, hear). He (Mr. Sutton) knew that they would want money for this object, as well as relief in kind; but he had found, from his communications with farmers on the subject, that they would be delighted to send some of their best wheat, barley, and oats for their suffering brethren on the Continent, and seemed to think that that was their proper part, and that money subscriptions should be obtained from others. He had been authorised by the firm to which he belonged to offer several cwts. of seed; but since he entered that room he had been led to the conclusion that what would be most useful and convenient, on the whole, would be subscriptions in money, and therefore he now offered to the Committee, in the name of Messrs. Sutton and Sons, of Reading, £100 in cash (cheers).

Mr. SPECKLEY, in supporting the resolution, said he believed that that movement was one of the kindest enterprises that could be commenced on behalf of suffering France, and he had no hesitation in saying that if a proper appeal were made almost any amount of money might be collected in the City of London.

The resolution was then adopted.

Mr. H. TRETHEWY moved the next resolution, viz.: "That the general committee be, and are hereby authorised to purchase seeds with money subscriptions, after having ascertained what corn and other seeds are most likely to be useful." He said that resolution appeared to him to form the pith of the whole matter, and he hoped that whatever feelings or views there might be as to other forms of assistance, there would be perfect unanimity on that point; so that the committee would be enabled to carry out the object for which they were called together, namely to secure the sending of seeds to France. Much had been said with regard to the necessity of sending those seeds, but he would beg permission to throw out a hint in accordance with the view of the noble lord, that the seed sent out should be really used as seed and not as food. He would suggest that the committee should, in the exercise of their discretion, adopt some means or other for securing that important object (Hear, hear).

Mr. J. R. ROBINSON (Manager of the *Daily News*), who seconded the resolution, reminded the meeting that from the first a want of seed corn had been spoken of by various gentlemen who had visited the devastated districts. The mayors of the villages also made an appeal at the commencement of the movement which the meeting was promoting. That appeal contained the following: "In the sections of country that have been traversed by the German armies nothing remains of the provisions that had been accumulated in time of peace. Our houses, stables, and barns are burned or riddled with cannon-shots. The fields and meadows are trampled down by the tread of embattled hosts. Neither cereals nor grass have been harvested this autumn. All our beasts of burden, all our bees, sheep, and swine have been taken from us. Our labourers are either pressed into the French army as soldiers, or into the German army as teamsters. There re-

mains not even seed-corn. We are destitute of strength to prepare the trampled ground for seed for next season's harvest, and destitute of material to sow." A letter received a few days ago from France said upon the same subject: "When we stopped, after a fatiguing round through a number of field lazarets, our talk turned upon the misery in which the peasants of the ravaged districts lingered between life and death, without nourishment enough to ward off the typhoid form of dysentery with which nearly all are afflicted, and which must shortly become epidemic unless energetic help arrives. When I understood that not only the horses, cattle, and strong men were gone, but that next year's supply of food would depend on grain to be sown, and that even the pittance necessary for this sowing was taken from them, while their agricultural tools and machinery, and even the vehicles that were not taken for army transports, had been cut up and burnt for camp firewood—when I saw that they had neither victuals nor means of procuring victuals from the distant parts of the country, which are less depleted, I asked, 'What can be done to help this wretchedness?' There could be no doubt, whatever, therefore, that seed corn was badly wanted in all directions, and the committee, happily, would have the advantage of not working in the dark. The Society of Friends amongst the distressed French people was represented by eminently practical men; and so far as the French Peasants Relief Fund was concerned, he had in his hand the skeleton of a return which, when filled up, as would be the case in a few days, would give a list of 25 villages, with the number of indigent, the nature of their ordinary employment, the probable duration of distress, and a number of other details to guide those who distributed the relief. The exact wants of each village were accordingly known with considerable accuracy, so that the committee would have no difficulty in avoiding any very serious error. In justice to the poor distressed creatures for whom our sympathies were invited, it should be borne in mind that they were most anxious to earn their own subsistence if they could, and all accounts agreed that there had been a marked absence of attempts to abuse the kindness offered (Hear, hear). He might mention as an interesting fact, supplied to him in a recent communication from the United States that the American farmers were contemplating a movement similar to that under discussion. The object of these efforts in England not being to pauperise the recipients of relief, it was most desirable as soon as possible to see the people depending upon themselves as before, and the operations of the newly-formed committee would, he believed, work powerfully towards that end, not only because it would assist a return to necessary farming operations, but because a revival of one form of industry generally awakened and strengthened others. The farmers of England in subscribing to the fund would taste the luxury of relieving the distresses of their fellow creatures; and at the same time they would do an eminently practical work, which could not but tend to foster kindly feelings towards us as a people in return for assistance offered in a spirit of manly respect which had not even the suggestion of humiliation towards those who received it (cheers).

Mr. HALL said: Having had considerable experience in connection with the supply of bandages for the wounded, he felt quite sure that subscriptions of money would be found preferable to subscriptions in kind. He was happy to say that the railway companies had conveyed 42 tons of bandages free of charge (cheers); and he felt certain that they would be willing to convey corn-seed without any payment. In conclusion, he suggested that the sackmakers of the country should be requested to supply the committee with bags gratis.

The resolution was then carried.

Mr. SIDNEY moved: "That the General Committee be, and are hereby authorised either to obtain the loan of, or to rent one or more suitable warehouses for storing contributions." He represented officially a commercial and not a philanthropic company; but nevertheless he believed the Directors of the Agricultural Hall Company would be happy to place rooms for storing at the disposal of the Committee.

Dr. LEWIS, of Glamorgan, who was announced as having lately spent some time in the north-east of France in the exercise of the duties of his profession, observed that there could be no doubt that a vast proportion of English farmers, especially of the smaller class, would rather subscribe in kind

than in money; but he thought all aid in kind should be accepted, and the Committee might convert a portion of such contributions into money if they thought fit. He testified from observation to the great need of seed-corn in the north-east of France, and observed that having traversed the whole country from Strasburg to Paris, he found there an exceedingly fine field for steam cultivation, the small allotment system presenting no practical difficulty if the engines ploughed across the land.

The resolution was then agreed to.

The CHAIRMAN having invited suggestions or remarks from any gentleman present in furtherance of the object,

Mr. ALBRIGHT mentioned specially a number of subscriptions on his own list which had been promised, including £100 from the Mayor of Birmingham, £100 from Sir T. F. Buxton, 10 guineas from Lord Leigh, £100 from Mrs. Gibson, of Saffron Walden, and a promise from Mr. Joseph Smith, of Henley in Arden, of 17 stones of seeds, that being his own weight (laughter). He added that Mr. Millis, Coventry, of the London Corn Exchange, had offered to receive subscriptions, and, if agents were wanted, to purchase without any commission; and, further, that contributions of seed-corn might at once be sent to No. 154, Minories. He likewise stated that Mr. Fowler, of Leeds, had offered a steam cultivator on terms which would be equivalent to a subscription of £500 to the fund.

Mr. R. D. WILSON, of Lincoln's-inn, said he had been engaged for some time in assisting Mr. Bullock in distributing the *Daily News* Relief Fund, and he could assure the meeting that assistance was only given where it was really required. In every French village there were the mayor, the curé, and a *bureau de bienfaisance*, formed of inhabitants, who acted as a committee of charity. In distributing the fund to which he had referred, they found it advisable to co-operate with the mayor and curé, and two or three of the *bureau de bienfaisance*. By following this example the committee would be able to secure that the corn sent out should find its way to the persons who were unable to help themselves (Hear, hear).

Mr. CADLE moved, "That the thanks of this meeting be, and are hereby voted to the directors and manager of the Salisbury Hotel Company for their liberality in placing this room gratuitously at the service of the promoters of this movement."

M. BARRAL, in seconding this, said I beg in the name of France, and particularly in that of the French agricultural press, to give you our most grateful thanks for what you are doing, and we hope one day to show you how great are our gratitude and friendship towards England; allow me give our special thanks to your aristocracy, who are always at the head of such undertakings as the one that occupies you to-night; allow me to add that if we had in France such a noble, able, and kind-hearted aristocracy as yours, we should not ask for a republic, but would have the same form of government as your own.

The motion was then adopted.

Mr. CAIRD, in moving a vote of thanks to the Chairman, said he considered it of the utmost importance that they had in the chair one who had not only been long known for the interest which he took in agriculture, but at that moment held the high position of President of the Royal Agricultural Society of England. That was important because it was desirable that such a movement should exercise a national influence and beget national sympathy throughout the country. He did not know whether the National Agricultural Society of his own country—Scotland—would take up the matter, but he thought it very probable that it would—and the same remark applied to the Irish Society; but whether that were the case or not, the fact which he had just mentioned could not fail to produce a great impression in France: that was simply a question of sympathy amid the misfortunes which had befallen a neighbouring country. It had been assumed by some speakers that the north-east of France would receive all the benefit arising from this movement, but he trusted that the succour to be rendered would not be confined to any particular part of France, but that wherever a need for help existed it would be supplied (cheers).

Mr. R. LEEDS, in seconding the motion, said he was sure they all felt exceedingly obliged to the noble lord for presiding; and as regarded the object of the meeting, he could only say, as a tenant farmer, that he hoped his brother farmers would do, as he wished to do himself, all that they could for its promotion (cheers).

The motion having been put by Mr. WREN HOSKINS, and carried by acclamation,

The CHAIRMAN, after returning thanks, said, I wish to say one or two words with regard to the result of this meeting. So far as I can judge, although the number assembled is not large, those who have attended are all in earnest about the work which has been undertaken (cheers). We have heard from several speakers very valuable hints with respect to the mode in which contributions should be raised, some gentlemen appearing to think that money should be contributed as well as grain, and others, that it would be best in all cases to subscribe money. We have also had promises of warehouse room, which are very important at the commencement of such an undertaking. We have likewise received hints from gentlemen who have lately visited France, and to whom this country is very much indebted for having represented it in so disinterested a manner with respect to the mode in which this object should be carried out; and lastly, we have been reminded of the necessity of administering what is raised in such a way as not in any degree to pauperise those who are assisted. There are, no doubt, many matters of detail which will have to be carefully considered by those who have been requested to carry on the work; but when men are in earnest in a matter of this kind difficulties soon disappear (Hear, hear).

Subscriptions amounting altogether to nearly £1,000 were announced before the meeting dispersed.

At a preliminary meeting held in Edinburgh, Mr. Robert Scot Skirving, Camptoun, President of the Scottish Chamber of Agriculture, in the chair, a large number of letters sympathising with the object were read. The member for Berwickshire writes in the following terms:

Ladykirk, Berwickshire, Dec. 20, 1870.

My dear Sir,—I have the pleasure of receiving your letter. I consider the purpose of it a most excellent one. The war still raging between France and Prussia I consider the most deplorable event of our day, and ought to have ended long ago. France was clearly to blame, and Louis Napoleon especially, for its declaration. Prussia and its King are now as clearly to blame for its continuance. The parties whom we propose to succour are in no way to blame. Few things are more proper in this world than aiding people in distress, especially when it has been brought on by no fault of their own. I consider nothing could be better timed (and I give you all a great deal of credit who have originated your present proposal), than that of supplying the poor farmers of France with seed for their corn crops. I have the greatest pleasure in sending you enclosed a cheque for 10 guineas for the promotion of your great and good object, and will have no less pleasure in doubling the amount if it be required; and pray believe me, my dear sir, yours most sincerely,

DAVID ROBERTSON.

Charles Stevenson, Esq., Edinburgh.

The following gentlemen were appointed to act as members of committee: Messrs. David Robertson, M.P.; Peter M'Lagan, M.P.; Sir A. C. R. Gibson Maitland, Bart., M.P.; Messrs. William Dingwall Fordyce, M.P.; Wellwood H. Maxwell, M.P.; James Dyce Nicol, M.P.; Charles Lawson, jun., Edinburgh; D. Cross, Glasgow; G. Hope, Fenton Barns; J. Melvin, Bonnington; A. M'Neel Caird, Stranraer; W. Goodlet, Bolshan; W. Hope, Leith; J. Miller, M.P.; R. Scot Skirving, Camptoun, convener, with power to add to their number.

The meeting was of opinion that, however urgent the necessity, no grain should be forwarded to France until absolute guarantees were obtained from both the contending parties that the corn should be only used for the purpose for which it was sent, viz., seeding the fields of France which have been desolated by the present war.

THE FRAMLINGHAM FARMERS' CLUB.

THE STABLE.

At the December meeting the subject was "What are the duties of the stable as compared with its customs?" when Mr. C. W. SUTTON, of Stowmarket, read the following paper:

Perhaps the title of my paper does not fully convey to you what I intend to be the object of it; and it is not quite clear to me if I ought not rather to have announced it in this way—"What are the duties of the stable as compared with its customs." Most of you know the great love I have for every subject connected with the horse, and in fact all our domesticated animals, which is my plea for presuming to introduce this subject to-night. I will not say much upon the stable, as this paper deals more with the duties connected with it. In the architecture and management of the stable we must consider the uses for which it is required, for one that would suit the forced and somewhat artificial life of the racehorse would be quite out of character for horses for general purposes. All our stables should be constructed to secure good ventilation, light, height, drainage, and facility for cleanliness; they should not be damp, and possess a fairly even temperature both in summer and winter. Damp and badly lighted and ventilated stables are the pest-houses where valuable animals soon lose life and spirit, promote a staring coat, and by impairing the vital powers incite a susceptibility to receive any prevailing epidemic, such as strangles and influenza, to say nothing of such ills as diseases of the eye, grease, swelled legs, cracked heels, hidebound, &c.; and that there are many such places in existence now there can be no reasonable doubt, and although a bad pavement is, perhaps, found more especially in the stables of agricultural horses, I have seen many other stables where the paving-stones were rough and uneven, and the floor as full of holes and inequalities as some of the old pavements in a London street. On these the wretched occupants are made to stand, their feet taking a bearing at all sorts of angles, and unless up to their knees in straw, any attempt to lie down is attended with torture and unrest. In some stables you will see a considerable descent or slope of the floor, so that the horse is placed in an unnatural position, his chief bearing being upon the hind-quarters, whilst forward he is compelled to stand with toe up and heel down, thus throwing a constant strain upon the back sinews of the fore-leg. Such a state of things will produce sooner or later serious mischief. Again, if you keep a horse only for pleasure, and do not give him sufficient regular exercise on those days when you do not use him, he will get out of condition, no matter how good a stable he may have. Therefore, although I would see all stables constructed to secure plenty of light, good ventilation, with a well-arranged system of drainage, I contend that these will ever be subservient to other matters of management, which must be attended to, in order that you may have the health of your horses preserved and kept up to the standard of what we all understand as good condition, and let us all feel that our best interests are consulted by the proper observances due to vitality in every form. Last week I had the opportunity of inspecting the new stables built for the London General Omnibus Company, to accommodate over 600 horses. Everything that care and judgment could do seem to have been done to make them adapted to the purposes for which they were designed. The stables are each about 180 feet long, separated into compartments (each of which will receive about 20 horses), boarded from the manger to the eaves, above which all is open to the roof from one end of the building to the other. The buildings are of brick and tile, the ordinary span roof, not drawn or plastered, thus a free access of air would constantly pass between the tiles. The lighting and ventilation is from the top, and windows upon the south-east side, with latticed ventilation also above the doors. No draught could by any chance fall upon the heels or any part of the horses, or would any light be thrown upon their eyes. The floors are of granite paving, finished with grouting and cement, and so laid that there is no chance of the animal standing in

an unnatural position, but still with just sufficient fall to allow the liquid matters to pass into the drains, which are bell-trapped, and empty themselves into a tank. The loose boxes for sick horses are built upon the same plan as the stables, but additional ventilation is effected by means of perforated bricks one course from the bottom. One thing especially struck me, and that was the perfect isolation of the unhealthy or diseased from the healthy horses by using a distinct block of buildings, separated from the main body of stabling by a wall; and the inference I drew upon reflection was how useful and necessary was a small building upon your farms, where upon the first approach of any epizootic or infecting complaints, such as strangles or influenza, amongst your horses, you could at once completely sever them from any connection with healthy animals. I think one of the first stable duties is for the groom or horsekeeper to be particular to note, and at once report upon, the early or premonitory symptoms of disease, and though they be ignorant of the more intricate, yet there are symptoms which could be explained in a few words, and would be of untold service when understood. How many times has an animal, when suffering from incipient inflammation of the bowels, been urged along, though perhaps miles away from home, and roused into action, when totally unfit to move, or looked upon with apathy and indifference, when every moment lost without remedial measures was precious? The early symptoms of inflammation of the bowels are violent shiverings, legs and ears cold, body tender when touched, and the animal evidently out of sorts. Of inflammation of the lungs, breathing laboured, standing with out-stretched legs, head and ears drooping, coat staring, legs and body cold, &c., &c. Of inflammation of the kidneys, looking at the loins, head depressed, back arched, hind legs straggling, crouching under pressure applied to the loins, &c., &c. Of worms, rough, staring, unthrifty coat, craving appetite, slimy dung, &c., &c. I say how valuable is that servant who is able to notice with a quick eye any departure from the routine of health, and it is quite within the power of every owner of horses to give the necessary information. Gentlemen will do well to have a constant eye upon the legs and feet of their horses, that they may be left clean and dry, and this more especially upon the approach of winter. This is a duty upon which I would insist, and in which so many are deficient; consequently should a horse be round and fleshy-legged, a little coarsely bred, or naturally disposed to grease, a few days of neglect may render him an excellent patient to the veterinary surgeon. I would never have a horse's legs washed, or go into water without they were properly dried, and the circulation promoted afterwards by rubbing. I would rather see the legs left dirty until dry, and the dirt brushed out, than allow them to go into water without being afterwards properly attended to. Just a word on the abuse of the curry-comb, which is very useful in its place for removing scurf, and keeping the brushes right, but should never be used with one quarter the zeal and energy which too often accompanies its application; such to a horse with a tender skin, or upon one suffering from eczema, surfeit, or kindred diseases, is positive torture, and should be at once forbidden, and neither curry-comb nor hard brush should be used when a horse is shedding his coat. The stable duties on feeding and food may not be out of place here. Musty hay may be detected by its smell, colour, and mouldy appearance, which, under the microscope, is revealed as a fungus growth. This is the cause of mischief—nothing you can give your horses to eat is so unwholesome as this, and the natural instinct of any (except a gross feeder) leads him to refuse it, until driven to eat it by hunger. Some consider salt a counter-acting medium, and use it accordingly to remedy this evil, but only to find they are mistaken, and to learn from dearly-bought experience that mouldy hay is unwholesome, and will leave ill effects upon the organs of respiration sooner or later; and rest assured that the consumption of it is false economy, as it proves a poison to the horse, and not a very slow one

either. Oats should never be given new; when the March winds have dried the last year's crop they may be used, but even then they are too new for horses consuming large quantities; but for horses for general purposes they do not hurt after having been kept that time. The reason I do not like new oats is, because they are indigestible, and derange the kidneys and bowels. The horse eating them has no firmness of flesh, sweats immensely, and often a surfeity eruption, which shows itself in the form of no end of little scabs matting the hair. Bruising oats is always advantageous, but not to the same extent—they should be simply crushed, but not ground, by which the gastric juice will readily act upon the starchy kernel, and will be the more surely appropriated to the nourishment of the animal by a process of perfect digestion. Beans are a very stimulating food for the horse, and when given in too great abundance render him more susceptible to inflammatory attacks; they contain more gluten than oats, and are better calculated to supply the wear-and-tear of the muscles in very hard work, and are therefore often given by cab and omnibus proprietors, as well as for agricultural horses, as they are found cheaper than oats, and for their muscle-making properties they are the right thing to be used. But although this may be the custom it should not be carried out blindly, for the duty will be first to consider the constitutional tendencies of the animal or animals to whom they are given. Thus I should never give them to horses whose feet and legs are inclined to inflame, or if affected with thick or broken wind. To washy, light-bodied horses beans are very serviceable, enabling them to stand work better, and although when given without judgment may do harm, will still remain a valuable food. A few words on chaff before I leave the subject of food, for since the introduction of steam chaff cutters it is the custom of some gentlemen to have large heaps of chaff-cut at one time. To this the horsekeeper or groom helps himself until as it approaches the bottom a large proportion is made up of very finely cut and powdered lamina or leaf blade and other matter which has settled in the form of dust. Now I have seen the ill effects of this so often, producing constipation or stoppage as it is commonly called, that I think it wise to draw your attention to it here. The first symptoms noticed are the intestinal secretions diminished or arrested, accompanied with colicky pains (but not like colic, for there is no intermission of pain). If these symptoms do not yield to the action of purgatives, soap and water clyster, and hot fomentations to the belly, we may reasonably suspect the presence of dust ball or some such obstruction, which is often nothing more or less than a quantity of this chaffy dust which has accumulated from day to day, and becoming firmly fixed into some of the narrower parts of the larger intestines produces the obstruction, and but too often fatal inflammation. Now I might tell you the precise treatment necessary under the circumstances, but prefer to suggest in this paper merely the preventive, which is to have the chaff always used from the top of the heap, and as it comes to the bottom have it carefully freed from this dust by sifting, or adopt the Cambridgeshire method, which is to cover the floor a foot thick with cut chaff, upon this lay in heaps—say, six or eight bushels in each, chopped tares, clover grass, nettles, or any juicy vegetables that will ferment. On these some gentlemen pour a few gallons of boiling water, and cover immediately with cut straw, which must be well trodden down as the process of filling the place proceeds, during which salt in the proportion of 28 lbs. to a ton of chaff may be sprinkled on. Much depends upon the way in which this is trodden down, as one great object is to get the mixture as solid as possible. After a few days fermentation will be set up, and continue for three or four weeks; and the promoters of this system say that after the heat has subsided, the chaff will have acquired the scent of hay, and keep any length of time. But whichever plan is adopted, it will be wise to follow the old-fashioned but useful practice of giving a bran mash on a Saturday night, which will have the effect of carrying off these offending secreted matters, and prevent this mechanical stoppage. A mild dose of physic would also sometimes be useful, but I will speak of this in its place. A few words upon the subject of water. The quality of water best suited to the horse is one moderately soft—not rain water collected in tanks—for that soon becomes foul and affects the health; on the other hand, hard water does not suit, some being apt to produce hide-bound and diarrhoea; but sound horses may become used

to hard water, and it will agree with them. The water which is given the horse will affect his condition, if it is not suitable to him in quantity and quality, or if allowed to take it when heated by work. Thirst is very distressing to a horse. If he has not water when his stomach demands it, he will refuse his solid food, or drink when he gets the chance to excess. If tanks are used they must be kept very clean, or the water will get foul, and the sides covered with a slimy deposit, which not only renders the water unpleasant to the horse, but prejudicial to his health. Horses eating tares or succulent vegetables do not require so much water, too much water given them will often cause gripes; even the usual quantity of water will be found too much when they are first put upon cut grass or tares. In the stable management of the feet constant care is required, for not only are they artificially protected by shoeing, but are compelled to stand upon a substance which is not like the surface of the earth, in a state of Nature destined to bear them. Neglect a horse's feet, and they become hard and brittle; let them stand where they are constantly soaking upon wet filthy litter, and thrush will soon do a sad amount of injury to the fleshy, secreting parts, which it is the office of the hoof to protect. It is then a most important stable duty to see that the horse's feet are properly attended to. 1st. To prevent the feet becoming too dry. 2nd. To prevent thrush, which is caused by keeping them too wet. 3rd. To see that the shoes are removed when necessary, are properly secured, and that no clinches of the nails are started, so as to endanger the other leg. Now the attention necessary to keep a horse's feet from getting dry and brittle is a subject of controversy; one recommends a stopping, which another calls favourite filth, which if long continued in will produce thrush. I think a mixture of cow-dung and clay forms a stopping which to most feet will be used with advantage, say once or twice a week. Exception to this would be when a horse had either a very flat or a pomiced hoof, in which case I would not stop them at all. The use of warm water will be found, with the occasional application of some good hoof ointment, most valuable for dried, hardened, or brittle and shelly feet. Let the feet be immersed and soaked in a pail of tepid water as often as it appears necessary, and then dried and the ointment rubbed into the coronet and crust; nothing pays for attention given them better than the feet. What adds more to the perfect finish of a horse and his intrinsic worth than a good shaped, strong and perfect foot? And, on the contrary, no matter how good a horse may be in other respects, an untidy, ragged-looking foot is as much an eyesore as the same thing amongst ourselves. When shod, I would insist upon having the hoof left externally as nearly in a state of nature as possible; for the same reason, I would have the rough, horny, elastic frog untouched, in order that it may fulfil its functions as an insensible pad to prevent the jarring of the foot upon hard ground. I would never meddle with the sole. It is the natural protection of the delicate internal parts of the foot, and infinitely superior to the leather and pad substituted for it. You may have to quarrel with your smith, who generally likes to leave the foot what he calls tidy, and rasps and polishes off the very coating which nature has provided to keep the hoof strong; but if your wish be carried out, you will be repaid by keeping your horses' feet in a condition to stand the wear and tear demanded of them. I think, as a rule, gentlemen are not aware how much may be done by careful shoeing and attention, to improve contracted or brittle and shelly feet. I could scarcely believe it possible that such changes could be effected in the hoof of the horse if I had not seen them practically developed by the use of proper remedies. As to exercise. No argument is necessary upon the need of exercise amongst stable duties; but the custom is very much to ignore the fact, except, of course, in the stable where regularly professed grooms are kept. Without regular exercise no horse can be kept long in health, and I am quite satisfied that even when a horse is hardworked he would be better for a short airing every morning after feeding than to stand the whole day without it. It removes bodily obstructions, promotes the secretions and due circulation. By air and exercise we gain two material points, namely, the preservation of the horse's health, and the promotion of condition, enabling him to go through with energy and vigour the exertions required of him. We now come to physic. In my previous remarks I spoke of physic as necessary for the purpose of getting rid of accumulated food; thus, in the case of a horse brought up from grass it will be generally necessary

and always useful. Let us consider this subject under three heads:—1st. As enabling the stomach to throw off injurious food. 2nd. To give the stomach tone and strength to bear the increased stimulus often supplied by the food necessary to get a horse into condition, especially for hunting or fast work. 3rd. In conjunction with the necessary exercise to get rid of internal fat, and any lurking tendency to disease. First, as to the effect of physic enabling a horse to throw off injurious food, &c.; generally four or five drachms of aloes will be sufficient for a hack or hunter fresh from grass, and from one to two drachms more for a cart horse; no preparatory mash need be given, as the grass has done all that is necessary. This applies to the horse that comes up with plenty of size; a horse low and lean would not require it. Second, The cooling properties of physic render it very valuable in the preparation of horses for work. If at any time the legs get hot, there is no better way of relieving this unpleasant symptom. It will be proper to give a mash or two first. I believe you would get at the same result by withholding a portion of the corn, but it is then at the sacrifice of condition, and from long experience and a constant anxiety to get at the facts, I conclude that after the dose of physic the corn may be gradually increased, and with proper exercise and a mash once or twice a week, will be found the very best means to obtain that perfect condition, which is the pride of every owner of horses who is worthy of his trust. Third, To remove superfluous fluids from the body through the agency of blood vessels, absorbents and secreting organs, all of which co-operate to remove depositions of fat lodged around the heart and other internal organs. Before I leave this subject, let me caution you against the use of physic in which aloes is a component in any of the following cases. Inflammation of the bowels or intestines, bronchitis or influenza, or other affections of the mucous membrane, and it is a treacherous remedy when given in inflammation of the kidneys or during pregnancy. A horse has been killed by only a three drachm dose of aloes when suffering from bronchitis, and I have seen horses at the point of death by the injudicious administration of a dose of aloes in influenza. Fomentation is a stable duty often practised, but seldom with judgment; it is a very essential adjunct in the treatment of disease, and a few words upon this subject may not be uninteresting to you. In most cases of broken knees, for instance, instead of fomentation being a comforting and soothing process, it is exactly the contrary. The dabbing and smearing a wound of this character irritates it, and rather distributes than removes the finer particles of dirt over the entire surface of the wound. To foment a broken knee properly, get a perfectly clean sponge, with a pail of milk-warm water, soak the sponge, and press it upon the leg above the wound, and not upon it; by this means the sponge is kept free from grit, and the water in the pail also, whilst the stream of water running down the limb carries away all loose dirt from the surface. It must be remembered that the sopping and smearing cannot remove gravel or dirt imbedded in the injured part. I cannot lay down a rule as to the exact temperature at which fomentation ought to be applied, as the nature of the disease and the part to be fomented must be considered. For the eye the temperature of the water should be about 100 degs., for strains and bruises as hot as the hand can bear, and for inflammation of bowels, pleuro-pneumonia, and other cases in which counter irritation is useful, the water must be scalding hot, the hands of those who wring out the cloths being protected by being wrapped in coarse towels. The chief disadvantage in the use of fomentation is the aptness to withdraw it before the heat and moisture have had time to do good, and the rapid cooling of the part by evaporation and contact with the cold air. Therefore, after the operation is over the parts should be rubbed dry, and well clothed or covered, to prevent the rapid diminution of temperature which ensues from evaporation. Some gentlemen use a fomenting pail, which I have seen of much service where the limbs require a long continued fomentation. It was made with a double bottom, and of sufficient depth to admit the horse's leg up to or beyond the knee. Blistering is a stable duty so clumsily performed that the efficiency of the application is almost lost or rendered inactive. When a cantharidine application is used, cut off the hair as closely as possible, and rub the ointment in with the hand for ten minutes, leaving a good quantity smeared over the surface afterwards. If the legs are to be blistered let the heels be protected, by being smeared with lard, which will keep the action of the blister

confined to the part requiring it; keep the head tied up, and put a cradle on the neck. Let the bedding be of short litter or saw-dust; do not let the horse stand on the bare pavement, as the irritation and pain the ointment produces may make him jar his feet and legs by stamping. After a week a little neat's foot oil may be smeared over the part with a feather to keep the scales moist. In using the Scarlet Biniodide of Mercury ointment, care must be taken not to remove the hair, as when ordinary blisters are used; the ointment should be rubbed into the part for two or three minutes, and the horse's head tied up until the irritation is subsided, and a little may be smeared over the part on the second day very lightly, without disturbing the scaly secretion, which after some days will fall off, and then the part may be dressed over again if it requires it. With reference to nursing, I would say that to nurse a horse properly after an attack of any debilitating disease, is one of the offices owners of horses are called upon to superintend, and the way in which this is carried out exerts an influence, greater for good or evil, than is often understood. It is not so much the care which is taken as the knowledge which directs it, which has a successful issue, the care may be ill directed and leave no good result, but the nursing carried on with judgment will have the best effect. How often do our most eminent veterinary authors tell us that the treatment which follows after the more active symptoms are passed, consists more in the nursing than in the physic; for the medicines having done their part with a disease, what remains to be done is to give the body support, by proper nourishment, and help nature to repair the damage. After inflammation of the kidneys, scalded linseed and an occasional mash to which linseed has been added, will form the best food, and no water given without sufficient linseed added to make it slightly glutinous. After inflammation of the bowels, to give bran is a positive poison. Mashies are not to be thought of; hay tea well made, and thin gruel, about a pound of flour to a pail of boiling water, must be the diet and nourishment allowed the first day of or after recovery; next day, a feed of boiled roots, not allowing more than one-third the usual quantity, for the weakened state of the affected organs will not allow of large quantities of food being taken at a time; after this a few crushed and scalded oats may be given but it must be some days before a horse is put upon his regular diet, or permitted to eat hay. After bronchitis, the food should be thick gruel, no solids; avoid loading the stomach, give water with the chill off; let boiled roots or crushed and scalded oats be the earliest approach to natural diet, and when recovery is effected let all the hay be damped, for nothing is worse or more likely to irritate the highly sensitive bronchial coverings than dust from the hay. The nursing during or after inflammation of the lungs should be hay tea, with a little oatmeal boiled in it and strained, and as improvement goes on make the hay tea thicker, and add two pounds of boiled potatoes per day. When the appetite is eager for food, give a pint of crushed oats well scalded six times a day: do not overload the stomach, or allow a full meal. Let the rule during recovery from any of these debilitating diseases be little food and often, and what is given really good; do not stir a handful of flour or oatmeal into a pail of water, and call that gruel. Let the gruel be made with boiling water, in order that the starch in the oatmeal or flour may be liberated, and the gruel will thus be made not only more palatable but more nutritive and easy of digestion.

Mr. CORRANCE, M.P., the President, had a strong suspicion that the grooms and horsekeepers needed to be looked after, for he knew they would sometimes, to save themselves the trouble of giving the horses a feed every three or four or five hours, whichever the case might be, give the whole feed at one time, and nothing could be more prejudicial to a horse. He should also like to hear the opinion of practical men as to the proportions of corn and green stuff to be given at different times of the year. He further asked the reason why aloes were so prejudicial in the case of certain diseases as almost to amount to poison.

Mr. G. JEAFFRESON, with reference to Mr. Sutton's remark that a horse naturally predisposed to grease, if neglected for a few days, became an excellent patient for the veterinary surgeon, said it was generally understood that all that was wanted for a horse with a greasy heel was to use warm water and to dry properly afterwards, and there would be no need for a veterinary.

Mr. SUTTON said aloes to a mare in foal caused a constitutional upset, which would be exceedingly prejudicial. In bronchitis and influenza they lowered the animal when he ought to be supported by a stimulant.

The PRESIDENT asked whether that remark applied to any opening medicine?

Mr. SUTTON said no. There were aperients which were not such drastic purgatives as aloes.

Mr. G. GOODWYN said with reference to badly paved stables he knew it was the custom in many stables, instead of allowing the horses to stand on the ill-paved floors, to litter them from time to time on the ground and some of the most valuable manure was so made. He wanted to know whether the horse standing on wet litter in this way in the stable as well as in the yard, so that he was only off it when at work, tended to produce grease. He admitted that in many cases the floor was not what it ought to be, and was not sure that it would not be found so in his case, and the animals stood at great discomfort. He agreed with Mr. Sutton in the desirability of having a separate building in which to place animals which showed symptoms of disease. Mr. Sutton spoke of not using new oats till the March winds had blown over them. He had often heard the vaunted superiority of old oats, but never heard it so strongly put as by Mr. Sutton, and he asked him to explain whether oats should have the drying winds and frosts of winter to deprive them of certain qualities injurious to the horse. As to the chaff, he agreed that the custom had grown to have a great quantity cut at one time. Mr. Freeman, Mendlesham Hall, had told him he pursued that plan, and had it tightly trodden down with layers of salt, and so dealt with it kept quite sweet for almost any time. He also said he had it carefully sifted when he approached the bottom of the heap. With reference to the Suffolk horses not liking to be turned into paviers and rammers for the London stones, he should like to hear the opinion of Mr. Gray, who had the reputation of having as good horses and of having given and obtained as high prices as any one in the neighbourhood, whether it was owing to the artificial rearing of sires and dams. They all knew the completely artificial state in which of late years young horses were exhibited at agricultural shows. He should not like to say what per-centage of the foals supposed to be the best in the country had been spoilt by artificial forcing. He knew many gentlemen who had extraordinary animals and had refused to show them because in order to obtain prizes they must make them so fat, and they would rather be without the prize than spoil the animal for their future service. He appealed to Mr. Gray on that point. The chairman asked at what times horses might advantageously be taken to work, and no doubt all were anxious to begin to make use of the animals that cost a good deal to rear, and at two years old they would begin to put them to do something so as to earn their bread and cheese. He had no doubt many good horses were injured from too much work when young. Their owners began with the most philanthropic intentions, meaning to make two or three of them do only one horse's work; but there came a pinch when all were wanted and the resolution was broken. He had known gentlemen who breed mares at two years old and turn them off in their third year with their foals.

Mr. SUTTON said the effect of standing on wet dung was to produce thrush. When, speaking of oats, he said the March winds should have blown over them, he did not mean that the wind should actually have blown upon them, but that they should have been kept for that period.

Mr. GRAY said he could not keep his horses as Mr. Sutton had described. He could not keep the feet as Mr. Sutton advised—not too dry or too wet. His stable was cleaned out every day and the tile floor was very uneven, but he never had a horse injured from it. His stable was a very moderate one, and as to ventilation he did not think it required it at all. He never had a horse go blind or have the staring coat Mr. Sutton spoke of as arising from the want of ventilation. As to the feet, if they were allowed to grow as Mr. Sutton described they would get so broad that they could not get into the furrow when at plough. What he liked to see was a horse with a round foot, and liked to see the shoe kept as back as they could to avoid straining the sinews. When a foot ran out the blacksmith shod accordingly and it was to prevent this that he would have it cut to the proper round shape. As to not

touching the frog, he liked to see a foot properly trimmed, and he never had a lame horse and never knew but they could walk the roads, and he thought they would go over the London stones if they were there.

Mr. SUTTON said he did not say they were not to cut the hoof; he only said they should not let the blacksmith rasp away the external crust and covering of the hoof, and that they should not let him meddle with the frog if he was going to take away the very covering nature had designed to protect the foot.

Mr. GRAY: I thought you said you should never touch the sole.

Mr. SUTTON said it should not be pared away with a knife as some blacksmiths did to fit the foot to the shoe instead of fitting the shoe to the foot.

Mr. GOODWYN asked whether the practice followed in many stables of watering the horses' baits was advantageous, and for what reason?

Mr. SUTTON said it tended to render the food easy of digestion.

Mr. T. CRACKNELL said he lost a valuable mare entirely, he believed, because his man neglected to water her food. He asked Mr. Sutton's opinion as to the advisability of giving horses beet-root. He had just begun to give his horses about half-a-peck a day, and thought it a good thing. They did not make 2d. a-bushel of the beet given to bullocks, and he thought they would make 3d. by giving it to horses.

Mr. JEAFFRESON asked whether maize was good food for horses.

Mr. SUTTON, expecting the question to be asked, had prepared to answer it. Maize had long been used in America as the ordinary food of horses, and it was said to suit them well. Bracey Clarke, and other writers of his day said it clogged the stomach and tended to promote founder. Others said they had seen horses employed for road work fed on it for years without ill effects. A member of the farming committee of the American Institute said from 14lb. to 20lb. of Indian corn meal was sufficient for the daily ration of the omnibus horses of New York. The stage horses had cut hay and corn meal, wet and mixed in the proportion of 2lb. of meal to 1lb. of hay and a very small quantity of salt. It seemed generally accepted that horses might be kept doing hard but slow work upon hay and Indian corn meal. The price of Indian corn meal in this country was generally a trifle higher than that of the best English oats, and therefore unless it went much further it would be no economy to use it. As 14lb. to 20lb. would suffice for the hard working omnibus horses of New York, it followed that it must be economical if it could be made to answer the purpose equally well with English corn. Oats contained 45 of starch and sugar and 11 of fibrine as compared with 62 starch and sugar and 12 fibrine in Indian corn.

Mr. JEAFFRESON said the General Omnibus Company used Indian corn meal for the horses that did the slow mid-day journeys, but to those which took the first quick journeys they had to give oats and beans.

Mr. J. GARRARD referred to the difference in the value for feeding purposes of English and foreign oats, expressing his opinion that the latter were absolutely injurious to the horse.

Mr. P. READ said it had been stated that the value of a farmer's horses amounted to £3 an acre. That was one-third of his capital; and who had they to look after their horses? Had they the cleverest and sharpest people they could find? Certainly not. Nine out of ten farmers would not be told by their horsekeepers that there was anything amiss with a horse till the animal was nearly dead. The usual run of labourers had a great affection for the horses under their care, and they sometimes gave them all manner of queer things—drugs they got at the chemist's and herbs they gathered—unknown to their masters, not with the intention of doing them harm, but to make them look nice. Mr. Read further said he had very little confidence in the general run of village farriers to whom these valuable horses were entrusted when ill.

The PRESIDENT, referring to the allegation that the Suffolk horse's feet were too tender for London work, suggested that this arose from natural causes. The circumstances under which a certain breed of animals lived would naturally develop those things which became idiosyncrasies of that breed, and he suggested that the pastures of Suffolk were not suited to the growth of horn. Succulent pastures with moist bottoms

would be favourable to the growth of horn, and there were few such in Suffolk, the majority being hot and dry. To counteract this defect they should select for breeding the animals that showed the greatest natural disposition for the growth of horn, or should obtain it artificially by placing the foals in yards with soft, moist bottoms, and not allow them

always to be running on the hot, dry pastures. He strongly believed that by such means natural defects might be contended against, and by careful selection and attention to breeding they might almost always be overcome.

A vote of thanks was passed to Mr. Sutton, and the meeting ended.

THE LAVENHAM FARMERS' CLUB.

At the monthly meeting, Mr. William Biddell, Vice-president, in the chair, the subject of labourers' cottages stood in the name of Mr. F. T. Barkway.

The CHAIRMAN, in opening the proceedings, said the subject of labourers' cottages was one that the Club did well to discuss, because the time might come when the owners and occupiers of land might be compelled to provide a certain amount of cottage accommodation. It would, of course, be a great stretch of power to do so, but we saw Session after Session that we were made responsible for things people never even thought of years back. Facilities had now to be provided for the education of the lower classes, and it might be we should be compelled to look to their physical wants or deficiencies. The members of the Club could but feel deeply indebted to Mr. Barkway for undertaking to introduce the subject at so short a notice.

Mr. BARKWAY said that the remarks he intended to adduce would be taken chiefly from the report of the Commissioners appointed to inquire into the cottage accommodation of the English labourer, as he went on to argue that the majority of cottages that now existed in rural parishes were deficient in almost every requisite that should constitute a home for a Christian family in a civilised community. They were deficient in bedroom accommodation, few having three chambers, and in some parishes, the larger proportion, only one; they were deficient in drainage and sanitary arrangements; imperfectly supplied with water; such conveniences as they had were often so situated as to become nuisances; they were full enough of draught to generate any amount of rheumatism; and in many instances were lamentably dilapidated. Whilst great strides and improvements had been taken in almost everything during the last 30 years, yet the matter of accommodation for the labourer, excepting in isolated cases, had received little, if any attention. In some places, comfortable cottages had taken the places of miserable hovels, and a comfortable cottage seemed to act like a charm, improving the manners and habits immensely. In his opinion it tended more to improve the condition of the labourer than anything else, and if landlords did not get so much per-centage for the outlay, they would reap it in another and more satisfactory way, having men more equal to a hard day's work, there would be less sickness, and consequently less expense in the shape of poor-rates. Adverting to Lincolnshire, which he characterised as a new county, he described the vast improvements that had been effected of late, the land being brought under cultivation, and he said everything necessary had been provided for excepting the human machine, by whose labour all this change had been brought about. The labourer must find lodgings miles away from his work. The report of 1867, stated that there was an absence, not only of villages, but almost of cottages also, consequently the labourers were all congregated in larger towns. The same report stated that there were women as well as men who took an hour's walk twice a-day, starting in the dark, and returning in the dark, to obtain the privilege of selling a hard day's work for a shilling. He gave instances in which whole families were found huddled together in miserable hovels, long distances from their work. The Lincolnshire cottages, however, as a rule, were not altogether bad in quality, but the insufficiency in quantity was the cause of evils quite as destructive of home life, and perhaps more so, than anything else. Overcrowding was, of course, attended with the worst results, and the people would take lodgers. He instanced many cases of overcrowding; in one instance, the floor of a cottage being so packed with sleeping people, that it was almost impossible to open the door. In Norfolk, what had modern civilization done for the labourer? In that county of agricultural progress, the labourer's lot was worse

and worse. The several reports show the character of the cottages in certain localities, old, rotten, and shapeless, with thatched roofs and walls full of cracks and crannies. He gave some glaring instances of overcrowding, adding that he was sadly afraid that we, in the county of Suffolk, could not put in at all a better appearance. If time permitted, he could bring before the notice of the Club cases equally bad and horrifying. He might enumerate many instances of whole families sleeping in one room, consisting of father, mother, and six, seven, and even more children. Could we wonder that vice and immorality should stalk through the land? And could we wonder at the want of decency, morality, and virtue? What must be the state of health which this overcrowding brought on? It was easy to guess what was the state of the air in the room of a cottage where ten or eleven persons had slept, and it was a wonder that they breathed at all. With this state of things, we could not hope to have a healthy agricultural population. If these evils were mitigated, we should find the calls upon the rates diminished year by year, and the people, as they became better housed, would become more provident, more careful, and would endeavour to lay up for a rainy day. He felt that he could not omit one parish, which stood out nobly, and presented a pattern which other parishes might most beneficially imitate. He alluded to the parish of Shimpling, where, under the fostering care of the lady at Chadacre Hall, many cottages had been erected, giving a great air of neatness and comfort to the village; and had, at the same time, produced a corresponding amount of care and self-respect amongst the occupants of these comfortable homes. He wished there were more ladies like Miss Halifax willing and able to assist their poorer neighbours, and then the complaints constantly arising would in a few years disappear, and we should be tempted to exclaim, "Could such miserable hovels ever have existed as homes for honest, hardworking men?" Mr. Barkway then spoke of Nottinghamshire, Derbyshire, Shropshire, Herefordshire, Worcestershire, Warwickshire, and a host of other places, giving a vivid description of the cottages and the habits of the people; and, in the course of some remarks on pauperism, he said he found that the increase of pauperism in 1868 over that of 1867 was 54,619, and in 1869 over 1868 it was 36,963. The number of paupers chargeable to the poor-rates on January 1st, 1870, was 1,083,532, while their cost to the country amounted during 1869 to nearly £7,700,000. In conclusion, he said: The question of decent homes for the labouring classes cannot rest. It stops the way. Education itself is an impossibility, when the nursery from which the scholars are drawn is a school of vice—school and home in antagonism. The victory, if possible, to the former would be a doubtful gain; and, unless some stir be made, the Act for the promotion of national education will be largely inoperative, if it is not generally followed by some remedial measures for the improvement of the cottage homes in England. I would ask, who is responsible for this sad state of things? Are the people who are born with it, who are dragged up in it, who are debarred by ignorance and poverty and the iron chains of habit from getting out of it? No; every family in this land is responsible for it. Think not that our duty is done by merely enjoying the comforts of life, and shining like a bright, warm spot in the cold, cheerless desert of life. You know that home is the congenial soil of every virtue. You know that upon the condition of the homes of England everything depends—that if they are corrupt we shall surely sink, let our material prosperity be ever so great. Let us not rest then until this evil is put away from us, until at least it shall be a man's own fault if his home becomes the abode of sin and misery.

Mr. R. HAWKINS expressed his great regret that Mr. Barkway did not suggest a remedy for the deplorable state of things he had depicted as existing in the various counties of the kingdom, and said it was perhaps because he did not take his hearers into the more immediate neighbourhood, about which he must have had a more thorough knowledge. As to the cottage accommodation in this county generally, there was no doubt there might be serious deficiencies in certain localities, but he (Mr. Hawkins) thought that on the whole the labourers were better cared for than in very many counties. He did not recollect that there had been remedies suggested, but it had been said that this was a landlord's question. There was no doubt but that the owners of property were bound in justice to give the labourers that accommodation which was requisite for the locality in which they resided. The county of Norfolk had been instanced as being one with grave deficiencies in regard to cottage accommodation. The tenantry of the late Earl of Leicester—some of them had 5,000 or 6,000 acres each—required better accommodation, and the noble Earl most liberally offered to find bricks and mortar on receiving five per cent. And if other landlords would but act in the same way the wretched state of things described as existing in some counties would be obviated. The lower classes increased at a greater rate than any other, and this subject of deficient cottage accommodation had long been mooted, and why no remedy was provided was a most astonishing thing. The landlords knew they had a duty to perform in this respect, and arrangements could certainly be made in the letting of farms so that the required house accommodation for the poor would crop up easily and satisfactorily for all parties. Some of the difficulty arose in this way: certain individuals by industrious habits acquired a small capital, and they wished to retire. They bought a plot of ground, and where there was only accommodation for two cottages they placed six, and let them for a given sum of money. The question, as a whole, must be taken up by the landlords. The tenant farmers could not do so, for they were in one place one year and miles off the next. At the same time they would assist their landlords in every way in their power to make the requisite provision.

Mr. T. P. HITCHCOCK said Mr. Barkway had quoted largely from the Commissioner sent to inquire into the habitations of the poor. Did they inquire into the state of the labourers' dwellings in town?

Mr. BARKWAY: No.

Mr. HITCHCOCK said he did not understand why the Commissioners should not have looked into the dens of Liverpool, Manchester, and other large cities and towns. The fact was the Commissioners wrote their reports to order. They wrote them strong one way in order to obtain promotion. Dr. Fraser had been made Bishop of Manchester, and no doubt he wrote his reports to order. What was the object in view in having these reports written? It was with a view of legislation, and was it intended that the agricultural labourer should have equal comforts to the men who were better off? He did not wish it to be understood that he deprecated lodging the poor well, or that many of the houses were good enough, but what he spoke against was legislation for the purpose. We must compare the wages of these people, and why was it they did not earn better wages? Because they could not, inasmuch as they had to compete with the labourers of other countries. Having referred to what had been said as to the evil tendencies of overcrowding—in the course of which he instanced Ireland, where families had only a single room in a cabin, and where there were thousands of such cases as had been referred to, but those people were exceedingly chaste—he said, in regard to England, that if it was legislated that there should not be less than three sleeping rooms, it must also be provided that there should be no lodgers, for if not, with this number of rooms, these people would be sure to take in lodgers. Mr. Hawkins had hinted that the population had increased, and that there ought to be more and better houses provided. Was Mildenhall larger than it was 100 years ago? Was Lavenham more thickly populated than then, as well as many other places that might be named? The population in many of these places had decreased.

The CHAIRMAN: In many of the rural districts it has decreased.

Mr. HITCHCOCK said he should like to see good houses provided, but let us have no legislation on the subject. It must be left to the good spirit existing between the landlord,

the farmer, and the labourer. If some inducement could be offered to the landlord to build the houses well, and good; but in the meantime he would caution persons not to exaggerate the case. It must not be forgotten that you could not, from a variety of circumstances, make all people live in good houses alike. The agricultural horse that was turned out at night into the straw yard might as well grumble because it was not kept up as well as the racehorse at Newmarket. It was quite right to ventilate the subject in this way, but it must be borne in mind that before much could be done there must be some return for the money. He, however, did not like those things written to order, because they only gave one side.

Mr. BARKWAY said Mr. Hawkins had asked for a remedy, and he could not do better than refer that gentleman to what had been done at Shimpling. Mr. Barkway also alluded to what Mr. J. E. Wright, Mr. Mumford, Mr. Hustler and others had done, and the comfort, and neatness, and alteration in the habits that these improved cottages had produced in the people was remarkable. As to the cottages in that neighbourhood it was, of course, easy to point to some that were as bad as could be, and as to Mr. Hitchcock's remark about the reports being written to order, it was hardly likely that gentlemen like those would write anything wrong in order to claim power upon it.

Mr. J. E. WRIGHT said he had done a little in cottage building, but he did not find it very profitable. His opinion was that each landlord or farmer must take his own special circumstances into consideration. It was impossible to lay down a general rule, because various persons' circumstances varied considerably. He himself had only found an indirect benefit. He did not find anything like 5 per cent. profit, but there was perhaps an indirect benefit in having the cottages close by. Living, however, as he did near Lavenham, there was not the necessity for cottage building which existed in some places. Mr. Barkway had referred to what had been done at Shimpling. Miss Halifax had no doubt taken a great deal of interest in the subject, and had spent a large amount of money. There were many others who felt equally well disposed towards the labourer, but it was not everybody who had Miss Halifax's purse. With reference to the per-centage question, that if that was thought of another class of persons must be found to inhabit the cottages.

Mr. HAWKINS said that the late Earl of Leicester built some excellent cottages with good-sized rooms above and below, kitchen, bake-office, &c., and every convenience for a family, and the tenant farmer paid £5 rental.

The CHAIRMAN inquired who bore the direct loss, the landlord or the tenant?

Mr. HAWKINS said the tenant farmers paid the rent. There was no loss.

The CHAIRMAN: Did the tenants pay the £5?

Mr. HAWKINS: Yes.

Mr. BARKWAY: If the same kind of cottage was built here, could you find men to pay £5 rental?

Several members said they wished they could, and one remarked that there was not a tenant farmer who, if he had a good man in his employ, would not make a little sacrifice with a view to that man's welfare.

Mr. THOMAS P. HITCHCOCK observed that one important question was whether it would suit the landlord's purpose to make an outlay in order that he might receive the sum which had been named. Every case must, of course, be dealt with on its own bottom; it was impossible to lay down a broad general principle. It would not answer the tenant's or the landlord's purpose to find cottages for some other person's labourers to live in.

Mr. BOWEN, as a native of Norfolk, was able to say that there had been great improvement in that county within the last few years.

Mr. TALBOT agreed with Mr. Hitchcock that the evil was gradually being remedied, and in support of this view he pointed to a number of excellent cottages which had been built within a few miles of Lavenham during the last three or four years. The Marquis of Bristol had paid particular attention to the housing of the labouring class. He also added his testimony to the liberality of Miss Halifax, and said it would be well if every parish possessed a lady of equal benevolence.

The CHAIRMAN said that few, if any, would deny that the labourers ought to have better cottages; but when it was

seen that a certain thing ought to be done, we should know on whom rested the blame if it was not done. He thought they were apt to talk as if the landlords should do everything. We found this sort of thing in every class. Take the case of a happy yeoman, or of one who farmed his own land, he could get an abundance of labour at a low rate without building cottages, and if he looked at the question in a business-like light, he would never build them. How had this yeoman, for instance, been treated by the Legislature or by the country? The legislator had told him clearly that "You must buy in the cheapest market and sell in the dearest, for that is the maxim on which we mean to go to work. We don't buy of you because your labourers have a little meat, and another man's labourers have no meat; we buy it of him if we can get it cheaper." If a man bought an estate for £10,000, and sold it, and put the money into the funds, there was no doubt but that that person was equally bound to see after the poor of this kingdom as when he was the owner of the estate in land worth £10,000. Why was the landowner to bear the brunt in this matter? We were too apt to speak of landowners as rolling in wealth, and as having at command almost any amount of money. No doubt numbers of the landowners had a great difficulty in maintaining their position, as many others, and we often laboured under a great mistake when we said the landowners had money in almost unlimited amounts. Mr. Barkway had most effectively portrayed the evils under which the labouring classes suffered in not having sufficient house accommodation. His (the chairman's) opinion was that those evils were greatly exaggerated. At the same time there could be no doubt but that the evils arising from unsuitable dwellings were very great. Very few things, doubtless, were more uncomfortable than a strong draught, a small fire, and low diet; but when we considered the habits of the labouring classes, he was not quite so sure, all other circumstances considered, that these draughts were entirely against their physical well-being, and it was quite possible that if they had air-tight windows it might prove, instead of a blessing, a serious evil; and though this state of things might be exceedingly uncomfortable for the time being, yet he did not consider them altogether unmitigated evils. Mr. Barkway had named many counties which were as badly, if not worse off, than we were in Suffolk in the matter of cottage accommodation. Human nature was such that if we could find others as bad as ourselves, the knowledge of this fact produced a certain amount of comfort. It was somewhat difficult to understand why this should be, but such was the case. It ought not to be a consolation to us, but it was clear that there were many other places even worse off than Suffolk. We must have all been con-

vinced of the fact that in Suffolk the dwellings were anything but first-rate. We found as great, if not greater, intelligence amongst the fens and uplands of Lincolnshire, for instance, as we did amongst our own labouring classes in Suffolk, and the habitations of the former, bad as they were, did not appear to have seriously affected their respectability or morality. The great point was the per-centage question. There were formerly objections raised against the inclosure of commons, for many small persons would get a piece of land, and somehow run a building upon it, and thus bring an additional encumbrance upon the parish. In some instances this had been the case, and you would find cottages of a certain kind built under circumstances which admitted of difficulties awkward to unravel. He would take the case of Cockfield, where there were some cottages built a short time since.

Mr. BARKWAY: They all tumbled down.

The CHAIRMAN continued: There were needy people who built good cottages, and who would not build them unless they got good cottagers. His own experience of cottages was that none but patriots would build them unless there was a special case where there was no accommodation for the labouring class, and those, of course, were places where cottages ought to be built. There was no doubt but that the dwellings of the poor had been very materially improved during the last ten or fifteen years. A certain Act of Parliament intended to act as an encouragement to cottage building proved to be one of great use—he alluded to the "Small Tenements Rating Act." The evils had been vividly portrayed, and he confessed he wished that the subject of the remedy had been gone into more fully. It was as well to ventilate the subject, and probably some remedial measures might eventually be suggested. Close by there had been some excellent labourers' cottages built. They were after the plans which obtained the £25 prize offered by the Suffolk Agricultural Society, and in the report of the committee appointed on the subject (a copy of which he held in his hand) would be found some most useful hints.

Mr. T. P. HITCHCOCK said Mr. Hustler had referred to the state of health of the agricultural labourer, and had given certain causes as having an injurious effect, bad dwellings, bad ventilation, and bad drainage; but he had not given any statistics showing the proportion of mortality in the agricultural and town districts, where there was better water and drainage. He (Mr. Hitchcock) believed it would be found, notwithstanding these advantages possessed in towns, that the average length of life was much greater than in towns.

Mr. BARKWAY replied, and a vote of thanks was passed to him for the paper which he had prepared at so short a notice.

AGRICULTURAL MATTERS IN ESSEX.

At the dinner of the Coggeshall Agricultural Society, Mr. T. S. Western in the chair, Mr. C. P. WOOD said: It might not be fair to give a verdict while the case was still pending, as the lawyers would say, but if he were bound to express an opinion upon the double-furrow ploughs he thought his verdict would hardly be favourable, as regards the soil of this district, but at the same time he should be glad to give the prisoner the benefit of the doubt. He was somewhat fearful, and he believed every agriculturist would share the same doubt, as to the possibility of managing wheels upon sticky soils under some circumstances. The benefit to be derived from their use might or might not be very great, but if it were the former he was sure they would all heartily welcome anything likely to improve the somewhat doubtful prosperity of the British farmer. Turning to the question of labourers' dwellings, which was very dear to him, he said he was quite inclined to believe that if they improved the dwellings of the poor they would improve their health, prosperity, and morality also. And he very much doubted whether they could dissociate the question of education, and the improvement of labourers' dwelling-houses. He was not speaking of that of which he did not know something, and if they would only turn their minds to one branch of the subject alone, leaving for the present all other consider-

ations, they would see that ventilation and pure air were almost as good as food. But they had not only the question of health but the larger question of morality involved in overcrowding. The conditions of the labourers are often found to be that he had too few rooms and too many children. And that was a subject which very likely applied as much to the landlord of the soil as to themselves. They could hardly expect landlords to find good houses for their labourers out of a feeling of kindness towards the poor. But they might hope that some time or other landlords would be found willing to expend their capital on improved dwellings for the poor when a scheme was propounded for guaranteeing the rents of these cottages to the landlord. He should say that if he were a tenant farmer and had a landlord who could build good houses for the habitations of the poor with the proper amount of garden ground, such as he thought every man was entitled to, he should be very happy to guarantee to such landlord a fair per centage of his outlay, if the landlord allowed him to find the tenants, and he would at the same time so bind himself down that he could not take any tyrannical advantage of his position.

The CHAIRMAN: Allow no lodgers.

Mr. WOOD replied he would have no over-crowding from any cause.

Mr. BAKER, one of the judges, said in regard to double-ploughing, as to which he had been asked for his opinion, he said he felt a little delicacy in expressing that opinion. He had a decided opinion of his own, but still he thought they had seen too little of the implements yet to express that opinion with fairness. At Colne he had his doubts as to whether they would be adapted to heavy sticky lands, and they had had that kind of land to contend with that day.

Mr. DENNIS then said he had the permission of the chairman to propose the health of a gentleman who was well-known not only at Coggeshall but throughout the agricultural world, a gentleman who was not only a practical but a scientific farmer, and from whom, let the world say what it liked about him, they had learned many valuable lessons. He need not say he alluded to their worthy friend, Mr. Mechi—who had attended these meetings for many years, and who, he thought he had heard say, always breathed freely at Coggeshall. There were some farmers who thought that Mr. Mechi, because he grew such great crops, rather threw the hatchet (laughter), but a little consideration would show that there was a sufficient reason for those large crops. In the first place Mr. Mechi's land was all drained, he had no fences, and very few ditches, and he had no game.

The CHAIRMAN: Oh, has he not, indeed? (A laugh).

Mr. DENNIS continued: He never heard that Mr. Mechi had much game. On the other hand some farmers had 20 or 30 per cent. of their land wasted in hedges and ditches, and therefore it was impossible for them to compete with him. Then, again, Mr. Mechi was a very high farmer—he “sugars” almost at every crop (laughter). And if other people did not grow such large crops they did not go to the same expense. He hoped that from Mr. Mechi they would that evening get as much information as would pay for their day's work, and their dinner, and wine into the bargain (renewed laughter). There was one point he wished Mr. Mechi to discuss before them, and therefore he would throw it down for discussion. Many of them were in the habit of grazing 40 or 50 bullocks every year, and they found by the time they had paid for the artificial food or corn they consumed they had nothing left for root crops. Whereas if the root crops had been used for feeding sheep they would have had a good profit. He wished to know Mr. Mechi's opinion as to the best and most economical method of converting straw into manure. Before sitting down Mr. Dennis said he wished to remark in reference to the labouring classes that they were not paid as much for their work as they ought to be.

Mr. MECCHI said one reason for the great success which had attended the operations of that society was that of all the years he had been among them nothing of a personal nature had ever been manifested at any of these meetings (Hear, hear). They had had discussions, and talked freely upon principles and practices, but had never descended to personalities. He trusted that the same features would characterise their future operations, and then he had faith in their prosperity, for personalities had destroyed many good societies in this county. He was particularly pleased, although farming was such an unprofitable business, to hear from Mr. Moss of the enormous number and size of the stacks which the judges had to inspect in performing their work. It was really reassuring, for sometimes they sowed so much grain that there was a fear of the people coming to “short commons.” The question of education, which had been alluded to, was a most important one to the agriculturists, because in these days of intelligence agriculture must be improved, and it could only be improved by the application of science, and in order to understand science in its bearing upon agriculture both their labourers and themselves must be educated. Science had done wondrous things in providing us with comforts. We saw its effects in the modern match-box compared with the ancient tinder-box; and in fifty miles an hour locomotive in comparison with the old mode of travelling, and we might trace it further through all the magical effects of chemistry. This led him to speak of one subject which was likely now to come before them in the application of science to agriculture. He adverted to the growing practice of making mangel cake, so that they could go to market and buy mangel cake just as they now bought rape cake. This had resulted from the recommendation of a gentleman, that of drying mangel after pulping. Mr. Coleman had carried out the process at his large works at Norwich, and had pressed the mangel into cake after

drying and pulping. Mangels, as now used, were very often the farmers great enemy. Many animals were either scoured or otherwise injured, and sometimes destroyed by incautious use of mangels. They all knew there were very essential qualities in the mangel, but the manner and time of its administration often made it very dangerous. Under the new method of seeing it it might be immediately given in any reasonable quantity, and the best results were expected to ensue from this improved method of treating it. It would be most useful to farmers. At the beet-root sugar manufactory at Lavenham there were four sets of men working during the twenty-four hours to convert the beet-root into sugar before Christmas, because they knew—and the same principle applied to mangels—that when it began to shoot the sugar escaped, and it did not answer the purpose, neither did it pay them to let the process of sprouting, with which they were all familiar, go on. Under the present plan, if they kept their mangel until July, there was a great deal of sprouting went on, and a great deal of emptying the farmers' profits, but it was done with the view of rendering the food rather more agreeable to the animals. But if they were pulped and dried they might be preserved in cakes for a year or two, and would retain all their good properties without their bad ones. He had some which had been stowed away for two years, and it was as sweet now as it was on the first day. He mentioned this as a scientific improvement in agriculture, and because it opened up the question of whether they should get their mangels at 7s. a ton, or pay 15s. or 28s. a ton for it. It would be a very important matter if they could multiply the mangel crop by 30 or 40 per cent. He urged the importance of investing more capital per acre upon their farms, and speaking with regard to stock, repeated what he had often said before, that if they were to make bullocks and sheep pay, they must keep them in covered yards, where all their food could be served out to them, without letting a particle of manure escape. He spoke on this point from many years' experience, during which he had probably never received less than an average of £5 per acre for each crop grown and consumed upon the farm in that way. Mr. Mechi excused himself from speaking longer, and resumed his seat amid plaudits.

The CHAIRMAN: Gentlemen, we are met here for practical purposes, so may I be allowed to ask Mr. Mechi what his opinion is upon the double-furrow ploughing which has been introduced upon the field for the first time at Coggeshall, what his calculations are upon the advantages of steam machinery; and last, but not least, what he thinks would be the expense saved to farmers generally by the cultivation of the soil by steam machinery?

Mr. MECCHI: These questions, gentlemen, are each of them very large. My experience of the double-furrow plough is not sufficient for me to form an opinion upon its merits. I am very much inclined to think that any ploughs encumbered with wheels on our stiff tenacious soils in certain seasons would be practically unavailable. In regard to steam, I would say, as a general rule, never use a man where you can use a horse, because he costs no more to keep, and is eight times as strong; and never use a horse where you can use a steam engine. The question of steam cultivation is an exceedingly wide one. I could go pretty generally into it, but you must excuse me doing so this evening.

The CHAIRMAN: Mr. Mechi has lately been giving his opinion upon the relative value of large and small occupations. We should like him to give his opinion upon that question to-night.

Mr. MECCHI: I can only say that that is a very difficult question to deal with. I should say, fit your farm to your capital.

Mr. CATCHPOOL said: It was, however, no use to build labourers new cottages unless they had a good supply of water. There were no less than eight or nine cottages near him which he supplied with water, because they had no supply connected with the houses. He had himself put down three or four pumps for his own cottages, and he believed he had been repaid by the improved health of his labourers in consequence.

Mr. WARDELL said he had no doubt they would conclude that he was speaking from interested motives when he told them that all the remarks made that evening about the double-furrow ploughs had been wrong. It was not the first time they had been tried on heavy land. They had been tried with great success at Alford, under the supervision of Mr. Amos, the

engineer to the Royal Agricultural Society. In the field that day the dynamometer had proved that the double plough showed only a draft of $5\frac{1}{2}$ cwt., while the single plough had registered $4\frac{1}{2}$ cwt., so that the double plough did double the work with only one cwt. more in draft. The double-furrow plough would save the farmer a horse and a man, and enable him at any time to plough a few acres with ease just after harvest. He confessed he was astonished to find in the liberal county of Essex so much conservatism in regard to ploughs. They held on to the old ploughs, which would not be tolerated in Beds or Bucks, and he did not believe they would long be endured here.

Mr. PEACOCK thanked the committee for affording the farmers of that district an opportunity of witnessing the double and single ploughs at work side by side, and expressing his regret that on this as upon other occasions they had not been able to show the thorough supremacy of the former over the latter. It was acknowledged, however, that the wet weather was much against all ploughing, and he could safely assert that in dry weather the double plough would beat the single

plough hollow, and he believed that even that day the double-furrow plough had done far better than had been expected of it.

Mr. EMSON said he had been very much pleased with what he had witnessed that day, for he must say that never in his life had he seen the whole of 30 acres of land ploughed in better style than it had been done at Feering Bury. This was not the first time he had seen double-furrow ploughs at work. At Halsted the other week they did their work very well, and at Earl's Colne just previously they were more successful than they had been that day, probably owing to the unfavourable circumstances over which the men entrusted with the ploughs had no control. In his opinion the use of steam ploughing did not increase much in this neighbourhood, but it struck him that the two firms represented that night had hit upon the right idea in perfecting these double-furrow ploughs, for something was really needed between the single plough and the steam plough more suitable to the general body of middle-class farmers, and he believed these ploughs would in time supply that want.

THE WIGTON FARMERS' CLUB.

TURNIPS AND MANGOLD WURZEL.

At the November meeting of the Club, Mr. Foster, of Killhow, in the chair, there were laid on the table some specimens of the roots on which Mr. Todd was to lecture; two of the mangolds weighed respectively 15 lbs. and $16\frac{1}{2}$ lbs., while a turnip and two beets were in proportion.

Mr. TODD read as follows: It is only after repeated solicitations—knowing my inability to do so satisfactorily—that I attempt to introduce a subject to this club. Taking green crops generally as the subject would have embraced too much for one meeting. I would, therefore, only consider the growing of turnips and mangold wurzel, having been pretty successful in growing good crops of both, without any failures, for several years. It would perhaps have been better if this subject had been introduced a few weeks earlier, as by far the most general system of growing root crops is after a crop of oats; and I consider that to cultivate these crops with the best chance of success, we ought to commence with the preparation of the land—the oat stubble—immediately after harvest, as soon as ever the oats are out of the field, so that we are more likely to get the land properly worked while the weather is dry. The best way in my opinion is to plough the land over first, then apply lime. One who is considered a good authority says: "Lime is found to act in a very remarkable degree on the turnip crop. Land that has never been limed, or which has not been so for a great number of years, either refuses to grow turnips, or if they do grow, they are always sadly injured ultimately by the disease called 'fingers and toes.' We have seen so many instances of this disease being removed by lime that we cannot look upon it in any other light than as a sovereign specific remedy in all cases of the same nature. We may, no doubt, reproduce the finger and toe disease by a too frequent repetition of turnips on the same field, even although recently limed; but had it not been limed the disease would have been much more virulent. The Norfolk system of cropping, where turnips are repeated every fourth year, would undoubtedly cause a total destruction of the crop, were it not for the long-continued custom of marling frequently, the consequence of which is that turnips are not more liable to disease in Norfolk than in other counties, where this crop does not recur oftener than every fifth or sixth year." Another states that "the soils most liable to this disease are those of a soft, black, or moory nature; and as lime can be only sparingly used upon such land, the only other cure is a long rotation, which embraces several years of pasture grass." The lime might be laid down in cartloads and slaked ready to put on the land as soon as it is ploughed over, then harrow it in, and with two or three times grubbing, and as many harrowings, it gets well mixed with the soil, to get cooled before the spring; now clear the land of couch-grass and other weeds which will all be brought to the top by the above operations, and if rather lumpy still, the best thing to run over

it then is the chain-harrow, which will thoroughly separate all the weeds from the soil, and leave them loose and light on the top of the land, to be carted away, burned on the land, or ploughed in to rot in the land during winter. On sandy or gravelly soils, where we are most likely to fail during a dry summer, a covering of clay on such soils occasionally would be the greatest improvement, if it can be found at not too great a distance. For light peaty soils anything heavier, sandy clay would be best. The land should be ploughed again before winter if the weather will admit of it being properly done, to have it thoroughly loose and clean, so as to require only one ploughing in the spring. A good deal of our success depends on the land being thus prepared in the autumn. The land receives much benefit by thus laying light and loose over the winter, and will be ready for stitching for green crop after one deep ploughing as soon as the land is dry enough in the spring, about the first or second week in April. Then after making the stitches or drills, putting in the manure (which ought to be broken very fine) and splitting the stitches to cover it in, the land is ready for the seed, and is no worse for laying a week in that state before the seed is sown, except on very stiff land. Mangolds ought to be sown during the last ten days of April, or first week of May. The late Mr. Rigg, of Abbey House, who was a very successful turnip grower, found that the 25th of May was about the best time to sow swedes, in his day, but that is three weeks too late in our time generally; of course there is a difference of seasons. The first week in June is about the time to sow common turnips. The drill ought to follow close after the plough in dry weather while there is moisture in the land. Get the land ready early for the seed, and if it should happen to be too dry, with most kinds of soil, we can wait a few days until rain comes. Turnips often miss or fail on account of the land not being sufficiently rolled and pressed down, and mangolds from the same cause. Where farm yard manure is used, particularly, the stitches ought to be well rolled and flattened down when the seed is sown at a dry time. The kind of seed drills with hollowed rollers are not the best kind. Neither is it good to sow without rolling at all. A light horse roller which rolls two ridges or stitches at a time with a drill held by a man attached to it behind, is the best kind. The roller passes once over the ridge before and once after the seed is sown. Sown in this way there is more moisture. Insects cannot work so easily in the soil, and the plants come up stronger. There is a field I have passed frequently this summer in coming to Wigton, of 3 or 4 acres, with only 3 or 4 cartloads of turnips in the whole field. But in going to Dumfries show this summer, I saw that turnips were much worse in the south of Scotland generally than in Cumberland. In some fields a fourth of the field was bare, and in others one-half. On certain patches of the field there are small worms at the root of the plant; you

see the leaves begin to wither; then come the farmer's friends to destroy the worms and insects, and pull up those turnips which had begun to wither and die; and thus a good deal of ground is yearly cleared. Occasionally we see failure from taking turnips too frequently off the same land, particularly if it is a light, poor soil. Land is liable to be turnip sick as well as clover sick. Sometimes the seeds do not germinate on account of the dryness of the season; there is not sufficient moisture in the ground, or, they may be growing healthy and well, and all be destroyed by the beetle or flea. Now, in my humble opinion, it is generally our own mismanagement in one way or another when we fail to get a crop, or to get the land clean. I have heard farmers say: "We can never get the land clean for potatoes or Swedes—they have to be put in so early." But the land ought to be prepared in September and October, and for that purpose we should keep up our strength of men and horses after harvest, and not have the land to clean in the spring when the seed should be sown. We ought to grow more mangolds than we do. With proper management and good seed, we may grow as heavy a crop of them, or nearly, as of turnips of any kind. We know they are not so likely to be destroyed by the flea. They will keep longer, and remain juicy and palatable long after the Swedish turnip has become spoiled by age. Turnips should all be used by about the middle of March; and we ought to have plenty of mangold wurzel to use with dry fodder in the last two months of spring, before the cattle are turned out to grass; and swedes are not likely to be either destroyed by the flea, by worms, by birds, or anything else, if sown early—sown in the first or second week of May. Why should we be sowing them during the last ten days of May, when they have the most enemies to contend with, and there is most risk? But if we should have to sow a part then, during that time when the flea is strongest, it will be necessary to sow a pound more seed—at least 3 lbs. per acre; and to dust the land over with lime just at the time the turnips are coming through. A small addition in the quantity of seed at such a time has sometimes made all the difference between a good crop and no crop at all. Common turnips may be sown up to the 20th of June, but should seldom be sown later. We should always sow a small portion of the soft globe turnip, to be used first in the autumn, to be given to young cattle to teach them to break turnips for themselves. A thing of the most importance is to get good seed. If we cannot purchase good seed, would it not be better to raise our own? A small portion of my swede crop this year is from 1 lb. of seed procured from a seedsman, at 1s. per lb. All the rest is from a farmer who raises his own from transplanted bulbs, and sells a quantity, the price paid for it was 2s. per lb. They seem to be both of the same kind of turnip; are the same colour; and the same shape of bulb. Any one walking across the field could not see a very perceptible difference. He could not easily tell where the one ended and the other began. Yet there is a difference of probably 4 or 5 tons per acre. Better to pay half-a-crown per lb. to have it from selected transplanted bulbs, than one shilling per lb. for seed grown from the promiscuous crop. We are told there is little profit to the grower who sells it thus raised at 2s., but that it pays well to sell it at 2s. 6d. per lb. We can generally procure good swede-seed so grown; but the yellow bullock, which was once a great favourite and valuable root, is now so degenerated that if seed growers do not take more pains with it, or if it cannot be improved or restored, must either be very little grown or go out of cultivation altogether. I should like to see a few members of this club transplant a few bulbs in their gardens, of common turnips, and try to improve that kind; this is the time to do it. They ought to be put rather deeper in the soil than swedes; and it would be well to spread a little light manure over them to protect them from the frost. Those who are not in the habit of raising swede seed could best do this. They should not be grown near together, else the produce would be hybrids. To show the difference there is of seed, it is right to state that before I began to get mangold-wurzel seed from Mr. Thomas Mann, of Crockhurst, I never could grow crops of mangolds of above half the weight. At first, a few years ago, he gave me a small quantity which they had left after sowing their own. It was ready steeped, and was sufficient to sow one drill or stitch the length of a field where I that year had about two acres sown, the seed of which was from two different, but both respectable seedsmen. There was as great a weight on that

one stitch as on any two of the rest of the two acres, and all the same way managed. I have got seed from Mr. Mann, and grown heavy crops of mangolds ever since. This year I had 7 lbs. from him, and paid 2s. 6d. per lb. for it. That quantity was sown on nearly two acres of moss or bog land, with a proper mangold drill, on the first and third of May. The stitches were twice rolled, and being loose light moss was pressed down until the land was nearly level. Other years I have applied a little artificial manure, mixed with salt, along with farmyard manure. But this year I have used only a rather small quantity of very rich farmyard manure, without either salt, or artificial manure of any kind. The quantity, as near as I can tell, would be about 10 good cart-loads per acre. Each row was set for 5 stitches. The heaps were about 7 yards apart, and about 12 heaps in a cart-load. The land was limed and well cleaned in the autumn. We had two kinds sown—the long red, and the yellow globe. To ascertain the weights per acre, we carefully weighed, with the tops and tails on, but the soil clean washed off, 6 yards on a stitch of each kind where they seemed an average of the whole crop. Also, 6 yards off an extraordinary crop of swedes, grown on the same sort of soil in the same field, and managed in the same way. The long red mangold-wurzels were 8st. 2lbs., number of bulbs 21; yellow globe do., 7st. 9lb., number of bulbs 19; swedes 8st. 11lb., number of bulbs 21, each from stitches 6 yards in length, by 31 inches in breadth. The weights per statute acre weighed, on the 21st October:

	Tons.	Cwts.
Red mangold wurzel	47	13-3237
Yellow globe do.	44	14-7862
Swedes	51	8-5860

A few days afterwards, thinking it would be more satisfactory, we weighed the tops cut off 21 mangolds on a 6 yards length, and the tops off 21 swedes on a 6 yards length (all the tops cut off just a little above the point of insertion into the bulb) and found the weights to be as under:

Tops off 21 mangolds	16 lbs.
Tops off 21 swedes	5 lbs. 11 oz.

WEIGHT OF TOPS PER ACRE.

	Tons.	Cwts.
Mangolds	6	8-3248
Swedes	2	7-5344

WEIGHTS PER ACRE WITHOUT TOPS.

	Tons.	Cwts.
Red mangold wurzel	41	4-9989
Yellow globe do.....	38	6-4578
Swedes.....	49	1-0516

LONG RED MANGOLDS.

WEIGHTS (WITHOUT TOPS, AND CLEAN WASHED).

Weight per acre.	Weight on 18ft. by 2ft. 7in.	No. of bulbs.	Average Weight of each bulb.
Tons. Cwts.	st. lb.		lb. oz.
41 4	8 2	21	5 6

YELLOW GLOBE MANGOLDS.

38 6	7 9	19	5 10
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SWEDES.

49 1	8 11	21	5 13
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When we succeed in growing a crop of mangolds to weigh upwards of 40 tons per acre, a few of them (the bulbs) will often be of this weight—15 and 16½ lbs. A good many of them will weigh half a stone, and very few of them will be under 3 or 4 lbs. What is the value of such a crop of swedes? To be sure we are within the actual weight; we will call them 40 tons. I think we may safely put them down at three farthings per stone, to use for our own stock; three farthings per stone, 6d. per cwt., 10s. per ton; then, £20 for an acre of swedes or mangolds weighing 40 tons. A writer, residing at Ipswich, Suffolk, in the *Royal Society's Journal*, in a prize essay, says—"In connection with a farmers' club we have often seen this crop weighed, and also swedes. We found beet to vary from 14 to 44 tons per acre, and swedes from 10 to 25 tons." Here the beet weighs 38 and 41 tons; but the swede, instead of being little more than half, weighs more than the beet. In the south of England there is an enormous advantage

on the side of the beet crop. Here, as regards weight, the advantage is slightly in favour of the swede; but the beet is more certain, and will keep longer. We had green top yellow bullock and white globe turnips in the same field, but it was easy to see that they were not so heavy as the swedes. Before we got any of the better mangold seed, the bulbs, although only about half the size, had more small fibres at the roots; brought up more soil with them when pulled; and far worse to clean. In thinning turnips and mangolds the best way is by hand, then to be hoed not many days afterwards, taking care not to take too much soil from the plants, or to let them too much down. Three lads may thin or hoe an acre in a day. The weight of the crop greatly depends on their being judiciously thinned. Don't mind for 2 or 3 inches either way, less or more, to leave the finest plant. The best average distance, for weight and quality, is for swedes 12, and common turnips 10 inches. Mangolds 10 to 12. The best width for the ridges or drills from 30 to 33 inches. When we pull and clean them for storing, that they may keep better, care should be taken not to cut into the bulbs, the tops should be cut off above the point of insertion into the bulb, so that the leaves fall separately on the ground, and are more easily ploughed in. It is very common to let the turnips to pull off. We see the people at work with them; one cut generally serves for the root, another for the top. They seldom strike more than twice when the work is let, and often cut into the bulb; and often leave a great deal of soil on it. The better way is to take the soil carefully off with the back of the knife, and then keeping the knife the same side up, pull it through the top from the underside at the exact place, without striking at it at all in cutting off the tops. In storing, it is better if they are carted and covered up on the same day that they are pulled, a single night's frost may damage them very much; but they receive little harm from two or three night's frost as long as the roots are in the ground. Mangold wurzel requires to be well covered up on the heaps, the way that we usually cover potatoes, with a little straw and a good thickness of soil. The expense of cultivating an acre of either, will often be from £8 to £9, for labour, manure, and rent of land; part of this expense for manure is chargeable to the next crop, particularly if the tops are ploughed in, and for cleaning upon all the crops; for the real cleaning crop in the rotation is the root crop. As it is an expensive crop, at any rate, it is better to be at a little extra expense for manure and labour to get a heavy crop, as the value of it may vary so much. We have seen some turnips this summer worth not more than five or six shillings per acre (in one case which I mentioned to you), and a good crop may be worth from 15 to 20 pounds. My reason for introducing this subject is on account of the many great failures we see in the turnip crop. We cannot travel 100 miles north or south without seeing scores of acres bare, which ought to be growing turnips. I trust that in discussing the subject such suggestions will be brought out as may be of benefit to us all.

Mr. GRAINGER was very glad to hear a practical subject treated in so practical a manner, as he agreed in the main with Mr. Todd's details. He had had the pleasure of examining Mr. Todd's extraordinary crops, which were probably not to be equalled in the kingdom, quality of soil and cost of manure considered. He flattered himself that he used to grow pretty good crops, but they had never exceeded 32 tons per acre, and he found himself very far behind when he saw Mr. Todd's. He approved of autumn cultivation, season and soil being suitable, with one deep ploughing before winter. He had copied remarks from the late Mr. Samuel Rigg, of Abbey House, a man to whom farmers owed much, and he had learned a great deal from the farmers in the neighbourhood of St. Bees and Whitehaven, where they produced excellent crops. In these localities a few years ago their stitches were 32 inches wide, and the plants were fourteen inches apart, but he thought the tendency at the present time was to lessen the distance between the stitches and the plants. As to the time of sowing, he recommended between the 10th and 20th of May. When earlier, the swedes were apt to mildew. He thought the next satisfactory plan of ascertaining the value of the turnip crop was by having them consumed by sheep, at so much per week. Mr. Grainger proceeded to enter into cal-

culations as to the value of a crop of turnips. He said, taking Mr. Todd's estimate of three farthings per stone, and supposing a sheep to consume a quarter of its weight per day, and assume further that two-thirds of its value is in the matter of improvement of the sheep, and one-third in the manuring of the land; in a crop weighing 15 tons we have £5 payable by owners of sheep, or improvement in sheep, and £2 10s. for manure. A crop of 20 tons they would have £6 13s. 8d. for the land; and in a crop of 30 tons they had £10 for improvement in the sheep, and £5 for manure on the land. Good seed was of the first importance. He had had prime turnip seed from Mr. Highfield, and from Mr. Mann, of Crockhurst. As to mangolds, he scarcely considered them to be suitable for this district, but the last three years had certainly been exceptional seasons. He considered salt very useful to apply to mangolds. Speaking of the distance to sow turnips, he said Mr. Todd gave 12 inches for swedes and 10 inches for common. Did Mr. Todd use any lime.

Mr. TODD said he did—a very little.

Mr. HAYTON said he had seen Mr. Todd's crops, and had been really astonished. The weight per acre was surprising, but he should have liked to see a greater length of stitch tried. When he looked at the sizes of the bulbs shown by Mr. Todd, and heard the weight per acre, he could not but think that they often under-estimated the weights of their turnip crops. He approved of autumn cultivation when it could be done.

Mr. NORMAN said he could only say he wished his mangolds were as good as Mr. Todd's. Mr. Todd had recommended lime, but lime did not suit all soils. He had tried it on some land at Oughterside, and it had not answered at all. Lime did not improve the land, it only stimulated it, and it was said that it enriched the father and impoverished the son. Lime set free a great quantity of moist manure, but for many soils they could apply as much as they wanted in the shape of bones. He should not like them to adopt the universal application of lime.

Mr. BARNES said he was very much against lime for mangolds, but for turnips he found it answer very well.

Mr. HORNE should have liked to hear something said about the storing of green crops, which was of great importance.

The CHAIRMAN, after complimenting Mr. Todd upon his paper, asked him if he manured in the autumn for his mangold crop; and Mr. Todd had not told them what kind of mangolds he used. Then he shook his faith in his hollow roller, which he had thought to be the best, especially for a dry season. For himself, he had always pursued the plan of autumn ploughing. He was not afraid of lime; he adopted the plan of giving his land 20 or 25 cart-loads of lime per acre once in 15 or 20 years. The Chairman proposed a vote of thanks to Mr. Todd for his paper, which was, he said, one of the best they had had read.

Mr. BROCKBANK seconded the motion, and asked Mr. Todd if the bulbs were 10 inches apart.

Mr. TODD, in returning thanks, said they were under 10 inches apart. In thinning his turnips he always took care to leave the finest plants, even if more or less than 10 inches. They would generally find the best plants where there were thick lots, and being careful in this they might make several tons in the acre difference in the yield. Twenty or thirty years ago he never could grow good crops of turnips, but having had much experience amongst the turnips in the west and other parts of the country as inspector of your crops, he had carefully studied the best methods of producing this valuable crop. He had grown some very heavy crops, and might say that it did not depend upon the land; such crops were fed from the atmosphere, and it depended almost altogether on judicious management. As to lime, he thought a little was always useful, but he was not an advocate for a heavy dose. As to manuring, he thought it was a good plan to apply part of it in the autumn, and the rest in the spring. As to a drill, he thought it was best in a dry season, when the plants were well pressed and rolled in, as they got more moisture. Mr. Todd said he should be very glad to show any of the members his crops, if they paid him a visit at any time, and invited as many as could come over to Mireside the following day. The meeting then broke up.

THE YORKSHIRE FAT STOCK SHOW AT YORK.

Is it a necessity that this show and the Smithfield Club Meeting should be held at the same time? If so, it is a necessity to be deplored; not that the Yorkshire Fat Show suffers so much by the drawing away of animals to Smithfield, as the county is a large one, and few wish to take an animal up to London and to sell it there without having a chance of being distinguished at home. The loss at this show is chiefly in the character of the attendance. Truly the citizens crowd in every afternoon, while the working people are in force every evening, and the farmers of the neighbourhood attend every day from noon to night; but still, the leading agriculturists of the county, residing at a distance from York, are conspicuous by their absence. The fact is they are in town, seeing the Club Show, spending the agricultural week, and listening to speeches in Club and Society, and they cannot be at York at the same time. The Smithfield Show suffers, on the other hand, by the simultaneous meetings, in its entries. How many good animals which we shall notice would have graced the Agricultural Hall under other circumstances. Some there are that would have taken the highest honours, and have certainly elevated the character of the Shorthorn show from mediocrity to a higher position. Lord Zetland's oxen, Sir Geo. Musgrave's heifer, and Mr. W. Hill's cow would have been no mean acquisitions to the Smithfield Club.

Any such unprofitable clash has not, however, prevented this the fourteenth meeting of the Yorkshire Fat Stock Society from being a success in every particular. The meeting opened on Tuesday afternoon, and on each day the attendance, in spite of the return of winter, was in excess of previous years. On the evening of Tuesday, the half-crown day, the county families and *élite* of the city and neighbourhood were present, and the scene became one of considerable interest from the large attendance of ladies in their gay winter costumes. The number of entries is larger than at any previous meeting during the last five years. The increase is principally in Shorthorns and sheep, while the other classes continue to be, in most instances, about the same in numbers.

Of the 115 entries of cattle 89 are Shorthorns, 10 cross-breeds, or of any breed (including several Shorthorns), and 16 Scotch breeds, and in this full entry there are very few inferior animals, while the competition, as a rule, has been very close. This has been the characteristic of the show: a strong class of really good animals, though we do not infer that none have reached over the average merit, but the contrary. Some animals are of extraordinary merit. In these we do not hesitate to place the winner of the President's Cup, and first prize in class 1 for best ox not exceeding four years old, and the second ox in the same class, both the property of the Earl of Zetland; as also the best cow of any age, the property of Mr. W. Hill, Wetherley, the winner of Beach's Cup, for best ox, cow or heifer, fed on his food, in which competition she came against the Earl of Zetland's first and second prize beasts; Sir George Musgrave's roan heifer, first in class 4, for Shorthorn heifers not exceeding four years, and winner of the Corporation Plate, £20, as the best cow or heifer in classes 3 and 4; and Mr. Reid's black polled cow, first in class 12, Scotch cows and heifers, and winner of Mr. Roper's £20 Champion Cup. Mr. H. S. Thompson's ox, winner in class 2 not exceeding three years old, and Mr.

Thornton's ox, winner in the class for Shorthorn ox of any age in the Tenant Farmers' Classes, are animals also of high merit; and there are several more which are entitled to their position, and to something more—public notice.

For convenience sake we shall, however, take these in their places. In the first class of four years old oxen the first and second prizes fell to the Earl of Zetland, for two magnificent roans; the second is the heavier animal, and of course, by "the trade," is viewed as the better; but fortunately the judges on this occasion—and how seldom it is so—were not governed by the scales. They could not ignore the first's superior quality and symmetry. Straight in all his lines, with handling hair unexceptional, magnificent crops, broad, deep breast, and fine head, he is every inch the model of a prize animal, and worthy of standing as the type of his class. His arched ribs and fine forequarters cannot be excelled, and make us regret that he has been prepared for the shambles rather than reserved for the herd. The want of arch in the fore rib is the characteristic and common *failing* of the Shorthorn, and the possession of a true cylindrical form is therefore a merit of the highest degree, and without it no animal, whatever other points he may have, can be an A. 1. Shorthorn. In this point the second prize ox is slightly defective, and though he will weigh perhaps 10 stone more than the first ox, he girths *three inches* less. Still he is also a grand ox: has size, colour, handling, and good form, with the exception of the point named. The whole of this class of oxen is good; the third prize white ox, belonging to Mr. McKessack, is a level good animal, very closely run by Mr. W. Hill's red-and-white ox. There is also a commended ox of Mr. Laycock, with a wonderful good loin and hind quarter.

In the young class of oxen, Mr. H. S. Thompson, the President, took the first prize with a red ox, wonderfully developed, for at his age we never met with such beef as he has upon him. It has been Mr. Thompson's specialty to bring out *young* oxen fat for the market, but on this occasion he has outdone himself, the present animal being quite equal in quality of beef to any four-years-old shown. Had he been a little more spread out, and stood better on his legs, he would have not been a long way off taking the President's Cup back again to Kirby Hall. The second-prize animal in this class is well entitled to his position; form and quality are united to the fullest extent, and his back and hind-quarters are exceptionally good. He is, however, a little light of bone, and there is not enough of him altogether to achieve first honours. Mr. Sharp, of Broughton, and Sir W. Trevelyan have good animals in this class, and Mr. Lisman, of Kimbolton, third prize is a thick well-developed animal, worthy of his place. Mr. Jordan's 2 yrs. 2 m. very young roan is not strong enough for a place; but by another day may see him in a higher position, for he is worth trying on. As in the previous class, there are here nine good animals.

The cows of any age "are seven," but select. Mr. W. Hill's white cow, the first prize and Myers' cup winner, is one of those sweet-looking females that are occasionally found in the highest class Shorthorns. She is an aristocratic beauty, graceful in outline, filled up evenly with flesh, showing no break of contour from irregular deposits of fat, with a head and eye as expressive as her figure is graceful, and she beats the large capital beef cow shown

by Mr. Darley, very properly. This cow is a fine specimen of the old Yorkshire Shorthorn, large and handsome, not patchy and lumpy, but she is wanting in the indications of *high caste*. She has weight in plenty; but when we have a cow that is equally fat, and has also other points of shape and quality in excess, in the class, fashion must have it. Mere bulk should not win against less weight, if the latter be accompanied by superior quality and form. We must confess, however, that we cannot see reason to place Mr. Hill's cow before Lord Zetland's ox, the winner of the President's Cup, and who competed for Beach's Cup. The award may be right, for between such animals it scarcely can be wrong, each being on the top of the ladder of merit, and it is quite possible that if we had counted the steps of the ladder along with the judges, we might have come to the same conclusion. Our own individual reckoning does not, however, set the lady above the gentleman in this case. Mr. Reid's third-prize cow in this class is but a moderate animal.

In the heifers under 4 yrs. old, there was some capital competition. There were eleven animals with more good entries than we have space to notice. Mr. Robson had a clever H. C. animal; Sir Chas. Trevelyan, a *petite* heifer 2 yrs. and 11 m., a perfect little gem, placed third, a place of honour indeed, in such a class. Mr. Tindall's second prize white heifer is a very great weight, and uniform in all her points, but quite out of the race in the struggle for first place with Sir G. Musgraves light roan heifer. This animal takes first prize here, and the £20 Coporation Plate, as the best animal in both the cow classes, therefore she beats Mr. W. Hill's cow, the conqueror of Lord Zetland's ox, for the Myers' Cup, and is entitled to be considered the pride of the show. Lord Zetland's ox goes to Leeds, but we do not know anything of the future doings of the cow and heifer; and it is not likely that if they all do go that they will compete together, or that we shall be able to get a *line* through one to the other as at York. The heifer in question is the best in a capital class, and is placed at York at the head of the females for the £20 time-piece given by the Corporation.

Cross-breed oxen are only few. Mr. Ross, Forres, has a blue roan of great length and size; with a marvellous loin, but the crop is light, and the top not straight. His beef is not exactly the thing, and he only just wins the first place from Sir W. Trevelyan's roan ox. This is nearly a Shorthorn, stands well up, is perfectly straight above and below, and nearer a parallelogram in outline than we often meet with; his flesh is well spread, and he walks a grandee; he has deep sides, and wide breast, but unfortunately his sides are too flat. Had the rib been more curved, he would have been an extraordinary fellow, as it is he is quite good enough to win. As regards the prize cows of Mr. Ross and Mr. Reid we are not impressed in favour of the "best." She is level beef, and heavier than Mr. Reid's cow, and her age is only 2 yrs. and 9 m.; weight for age is then really her title to honour. Mr. Reid's second prize is an animal of very fine bone, and has quality and capital form, but she is 8½ years old.

The tenant-farmers' Shorthorns are only four classes; that of oxen of any age, with ten entries. The first-prize animal here distances the lot; he was bred by Lord Zetland, and is shown by Mr. Thornton, his present owner. The winning animal in this class is a roan, displaying all the character of the pure-bred Shorthorn; quality is unexcelled, and his symmetry very good; he has wonderfully perfect crops and shoulder; and indeed, his fore-quarter cannot be beaten. He is far from being fed up; and he might be better on his hind legs, while his hind-quarter is a trifle short. The second animal here (Mr. Batram's) *has* size; any other merits we are ignorant of, and therefore, we

will leave his frailties unnoticed. The third prize is a young animal of fine touch and quality; he is only 2 yrs. and 9 m. old, and his owner, Mr. Brogden, will not, we think, lose sight of him for the future; he is straight and handsome, but scarcely, we think, good enough to beat Mr. Lovel's H. C. animal and some others of great weight and substance. In this instance the judges have given him full credit for the future, and it is not unfrequently that we are led away from the sober severity of justice in our decision by the attractions of youth and beauty.

The Tenants' Shorthorn cows of any age, are an excellent class in character, and five out of the eight exhibited are distinguished by the judges. The first-prize cow is a Shorthorn, bred by Mr. Unthank, and is a credit to her family. This is saying something for her. She is long and low, with fine bone, and comes luxuriously to the hand; while her head has more of the character of the Shorthorn than we can find in a day's journey. Mr. Thomlinson's roan heifer is well worthy of her second place. She is a good specimen of the quality and style of the heifers of the Bates' strain, but is a little too slight of bone and frame, to get a first at a fat show. The third prize is a strong fair Shorthorn; and the whole class is a satisfactory one.

For the best ox of any other breed, and the best cow or heifers of any other breed or cross, there was small competition, whether measured by numbers or by merit. In the Scotch breeds there are four classes only. For the best polled ox, Mr. Reid was first with a black animal—a solid lump of beef—and he is well matched by the second belonging to Mr. MacPherson. This animal has a finer point than the first animal, but his beef is also looser. In the polled cows or heifers, Mr. Reid takes the first prize and Mr. Roper's cup, which he now holds "for good," as he won it last year. To accomplish this second victory Mr. Reid has wisely brought a sure card, for a more perfect animal of her kind than she is would, we think, scarcely be found in all Scotland. The second and third animals are just fair animals of their class. In horned Highland oxen Sir W. Trevelyan is first, and Mr. Thackray, York, second; the first being a moderate animal and the second a "bad-un." Mr. Eastwood's Highland cow is of another order. Her hind-quarter is marvellous for a Highlander: her flesh is wonderful—elastic and full to the hand: her loin, indeed, is so wonderful, as to cover completely the space between rib and hip with an Indiarubber cushion. This makes the crops look rather light, but they are thickly covered with flesh. Sir W. Trevelyan stands second here with a pretty-topped heifer; and there is a good H. C. heifer belonging to Mr. Harrison, Skipton.

In the district prizes for tenant farmers within twenty miles there were only four animals for the ox of any breed. Mr. Lund, York, won this with a beast bred by Lord Zetland, and Mr. John Hill took second with fair butcher animals. The cow or heifer prizes went to moderate animals in a competition of six.

In sheep the entries exceed those of last year, but still they are not nearly as many as they ought to be, considering what extent of sheep country there is in Yorkshire. A few better prizes would bring this about. The present premiums offered are not equal to the occasion; and therefore they are inefficient in bringing numbers into the field. In Leicester wethers Mr. Jordan took all the honours. He exhibited three pens of fine sheep, but we are inclined to think that the judges here put the rosettes upon the wrong pens. The first prize was given to the biggest sheep on the leg; but they were inferior to the other pens in uniformity, quality, and wool. Now, in pens of animals uniformity is an essential, and the winning animals were not nearly as even as the second prize, or the

H. C. pen of sheep. The H. C. pen were real specimens of improved Leicesters; even as peas in size, and like each other in looks and wool, with thick necks, barrel middle, and fine bone—as a lot they excelled the first in everything except weight, and in this they were not short by many pounds. In Shortwools Lord Wenlock took all the prizes: they were fair individual animals, but did not in any case make a good pen—they wanted uniformity. For Scotch sheep Mr. Lund, of York, and Mr. W. Hill, Wetherby, both well-known exhibitors and in the trade, took first and second respectively with admirable specimens. The half-bred sheep were also good, Mr. Agar, York, scoring the win, and Mr. W. Hill again coming second. Mr. Borton's pen of fat ewes took the prize for best sheep of any age. We question that any other man in England can at this time produce such specimens as these. They show what his breeding-stock can do when put to feeding, and illustrate the fact of his great successes at the Royal Agricultural Society's Meetings as our leading Leicester ram breeder. We think that the cup for the best pen of sheep should have gone to Barton-le-street, or to Mr. Jordan for his pen of H. C. gimmers, rather than to Lord Wenlock's downs—themselves only moderate representatives of a class of sheep not cultivated at all in Yorkshire by the rent-paying farmer.

The pig competition in numbers is slightly larger than last year, and much greater than in previous shows. In excellence of the specimens it is quite equal to the usual standard. In Yorkshire this is always a high one, as, in addition to the public men in the line who compete at all the great shows, Yorkshire has also numbers of local breeders who come out on an occasion like the present, and bring out animals hitherto untried. In this instance it will be seen that many of the prizes are taken by residents in and near the city of York. Thus Mr. Agar, Brockfield, took first prize and cup for best animal, with a small-bred sow only fifteen months old. Our experience does not point to any better animal at her age than this. Mr. Routledge, York, also won first and second for best pig

under twelve months old; and Mr. Wm. Hill, Wetherby, took first for best three porker pigs under eighteen weeks old, with three black beauties—perfect piccannies, that could not be prettier, nor shine brighter, if they had been fed on sugar and milk since they came into this rough world! Mr. E. Duckering did not allow all the honours to remain in the county. He takes first, second, and third in class "pigs of large breed of any age." Oscar, the prize animal, is a grand specimen, weighing 70 stone alive, and will be nearly 60 stone dead weight. The second and third are two sows which have won in all parts of the world; but the third here, Princess Royal, has generally been placed before the second. They were so placed at the Yorkshire show at Wakefield in August last.

There is one speciality of this Fat Show which we do not often meet with. There are prizes offered for *young bulls* and *boars*. The bull classes were well filled. For "bull calf between six and twelve months old" Mr. Bromet, of Tadcaster, took first prize with a most promising calf of the Oxford and Duchess blood, Mr. Wright, of Oglethorpe, Tadcaster, coming second with another animal of the Wetherby blood. He has capital handling, and is a nice straight calf, but is slightly deficient on his sides. The year-old bulls were a large show; Lord Irwin, of Royal and Yorkshire repute, taking first prize, and he is one of the great guns of next year to a certainty. The second prize animal here is well-bred, and has rare hair and handling: his loin and back are, however, improvable, and he is well run up to by the H. C. bull of Mr. Fisher's of Leconfield, that bids fair to grow into a good animal.

Pigeons, poultry, and rabbits were large and excellent shows.

JUDGES. — CATTLE: Mr. Joseph Kaye, Huddersfield; Mr. Jas. Knowles, Wetherby; Mr. Richard Foxton, Wellburn, Kirby Moorside. SHEEP: Mr. John Rob, Thorpfield, Thirsk; Mr. T. B. Whitwell, Gate Helmsley, York. PIGS: Mr. J. M. Turner, Wakefield; Mr. G. Mangles, Givendale, Ripon.

THE ROYAL DUBLIN SOCIETY.—THE FAT CATTLE SHOW.

Some few years ago, when a Christmas fat cattle show was first attempted by the Royal Dublin Society in connection with the agricultural produce show, the entries were but few, and the quality of a very mediocre character, for according to their practice in fattening beeves it was too late to have grass-fed and too early to have stall-fed cattle in that bloom and perfection that good judges require. For a time these shows but barely existed, till some people showed more courage than the rest and began to put in their stall-feds much earlier than usual, took their neighbours by surprise, and bore away the honours; this so nettled the graziers, who grew no roots, nor had the accommodation for stall feeding, that they held meetings and went in for having two classes of fat cattle, one to be stall-fed and the other out-fed on grass, supplemented by artificial food given out of doors. After much opposition by the stall-feeders they carried the point by getting up subscriptions to pay the prizes, the Royal Dublin Society only making itself responsible for the prizes for the stall-fed animals. Thus emulation was excited, year after year the quality and finish of the animals exhibited improved, success has crowned those well-considered measures, and the Royal Dublin Society no longer treats the out-feds like step-children, but brings them under her own wing, and gives them a place and position in the programme at their winter fat cattle show. Such has been and ever will be the effects of well directed emulation, and for the past two or three years beef has been produced at those shows of a substantial quality, though not overloaded with useless blubbery fat.

In two years old oxen there were seven entries, all very creditable. Major Barton, of Straffan House, was put first for a cross between a polled Angus cow and a Shorthorn bull, which was well covered on all its points, with firm elastic meat; he is full brother to the prize two-year-old heifer, the gem of last year's show, and though not so highly finished it may give some idea of his excellence to find he has distanced some of the best feeders in the country. The Rev. Mr. Montray, Farm Royal Anghnactoy, came in second for a capital Shorthorn ox, well covered on the back, loins, ribs, and ends. Mr. Naper, Loughcrew, stood third, and gets a commend for another, both Shorthorns.

Seven excellent beasts made up the exhibition of oxen of any age over two years old, but to the dismay of Irish feeders His Excellency, Earl Spencer, brought over direct from his seat Althorp Park, Northampton, the best finished Shorthorn ox ever seen in "Ould Ireland;" he stood about 5½ feet high, girthed here 109 inches, before leaving home his attendant said he girthed 118 inches, so that he lost in transit 4 inches; his length is 71 inches, and his dead weight estimated at 15½ cwt., he is unquestionably the grandest fore-ended fat bullock we ever saw in Ireland, well padded over crops, back, loins, ribs, and quarters, with firm elastic beef, without a particle of blubber about him, and the best judges declared that nothing like him ever stood in Dublin before; but he was, nevertheless, nowhere at Birmingham. He was purchased from Mr. F. Cuff, who had the sale of him, by Mr. McQuade, a Dublin and Belfast buyer for £65. Major Barton came in

second for another of his cross-bred animals, with good back, ribs, and ends, but not finished over the loin. Mr. Allan Pollok, Lismany, takes the third place, and O'Connell Murphy, Breemount House, Trim, takes an highly commended and a commend for two very well fleshed oxen.

Four cows made up the next section, three of these belonging to O'Connell Murphy, who takes both prizes, and an highly commended. Mr. Allan Pollok exhibited the fourth, which takes nothing, though she handled well.

Three two-year-old heifers made up the next section, in which Major Barton takes first honour with another of his beauties, a Shorthorn cross, but without any Angus blood in her veins. She is about the best and sweetest handler in the yard, square and level throughout, with a grand back, a perfect block of beef, with little offal. Mr. Kingwall, Killynen, takes second place with a close, well-finished half-bred Hereford.

Twelve three-year-old heifers made up the next section, in which almost all the best feeders were represented; O'Connell Murphy takes both leading prizes, the first for a splendid Shorthorn. She was shown fat this time last year, and took second place, and again at the last spring meeting amongst the breeding class, taking first honour. She was however, better beef this time last year, as she is now soft and blubbery in every part, and we have some doubts as to the propriety of permitting a prize fat animal being exhibited twelve months after at the same show, or that she had any claim for the first prize as a breeding animal at the last spring meeting. The second prize is much the best beast, being close and well covered on all points, with prime beef. R. Walsh came in third for a well finished Shorthorn. Thomas Smith, Battertown, Meath, gets an highly commended, and Mr. Gerrard, Gibbstown, Navan, a commend.

In the class of out-fed stock the animals are exhibited in couples. Nine pairs of oxen, of any age or breed, composed the first section, some of which would have been better left at home, being tall and gaunt, with much loose soft skin hanging about them, but in capital condition for stall-feeding. The Earl of Kingston, Rockingham, Boyle, received justly first honour for a splendid pair of Shorthorns; they were in fine condition. Thos. St. George Pepper, Ballygarth Castle, Meath, was put second; Richard Manders, Swords, came in third; and Mr. Thos. Gerrard gets an H. C. and a commend out of five pairs of oxen exhibited by him. Six pairs of cows made up the next section, all of which were good. Matthew J. Corbally, Rathbeal, Swords, was put first, Richard Walsh, Kingswood, second; O'Connell Murphy got a high commend, and W. Stawell Garnett, Williamstown, Kils, received a commend. The next section for the best two outfed heifers of any age contained fifteen pairs, and were as a whole the most catching in the Show, and so good that the judges commended the whole section; but Mr. R. Walsh's three pairs were so evenly matched that they deservedly swept the three money prizes before them; they were the best finished in the class, with splendid backs and ribs, good twists, and regular blocks of solid beef. Saml. Garnett, Arch Hall, Navan, one of the best judges and feeders in Ireland, got a high commend for two half-bred Herefords; and Patrick Mathews, Annagor, Drogheda, had a high commend and a commend for two pair out of three pair shown by him.

The show of sheep was good; but there was still nothing very extraordinary amongst them. In shearling long-woolled wedders there were five pens, Richard Walsh and S. L. Naper taking first and second places respectively, Thos. Mader, Moyvaghly, Moate, an high commend, and O'Connell Murphy a commend. In wedders, between one and three shear, three pens, O'Connell Murphy takes first, and Samuel Garnett second prizes. In long-woolled ewes, four pens, Wm. Owen Blesinton is first; Robt. F. Francks, second; Col. Kane Bembury an H. C., and O'Connell Murphy a commend. In short-woolled shearling wedders, three entries, J. L. Naper first for Shropshire Downs; T. Barnewall, Bloomsbury, Meath, second; and H. C. for the remaining pens. There was but one pen of over one and under three-shear wedders, belonging to Thos. Gerrard, Gibbstown, who gets the prize; and two pens of fat sheep, of any age or breed, belonging to Thos. Gerrard, who takes the first; and Samuel Garnett, who gets an H. C.

The entry of fat pigs was excellent as to breeding and

quality, but few in numbers, fourteen pens, containing 29 pigs, composing the entire class. The prizes were divided between Messrs. Cooper, Limerick; Naper, Loughcrew; Manders, Brackenstown; and Trevor, Beech Hill, Donnybrook.

The poultry was the best collection ever seen in Ireland, as to breeding, condition, and plumage; numbering 318 pens, and embracing every good and distinct variety, of both useful and ornamental birds, and shown in about 37 distinct sections, in all of which there was not a single entry from England. The Society's show of pigeons was also a splendid one, in which were exhibited all the distinct varieties in 58 cages, exclusive of the amateur special prize show, got up by private subscription. The first prize of £5 for the best collection of not less than 12 distinct varieties in pairs, for which there were five competitors; the second of £3 for 9 distinct varieties in pairs, in which there were three competitors; and the third of £2, for 6 distinct varieties in pairs; six competitors; total, 123 cages.

The grain, root, and other agricultural produce was staged and adjudicated on in the week before opening the general show and this on the whole was an excellent exhibition, and a fair exposition of Irish progress; but the wheat this season is not so good as usual; the best white wheat weighed 64lbs. the bushel, best red 64½lbs., barley 59lbs. white oats 42½lbs., black oats 39½lbs., beans 69lbs., peas 65lbs., vetches 64lbs., Irish saved flax seed 53½lbs. There were also samples of mangel and turnip seeds in very fine condition. The show of roots was, as it usually is, a very fine one. The best six long red mangels weighed 154lbs., long yellow ditto 136lbs., red globe mangel 136lbs., yellow globe ditto 136lbs., swedes 79½lbs., and four cabbages 94lbs. Heavier roots have been shown in previous years, but this year is an exceptional one, and the wonder is that they were so good. Some very superior roots, were exhibited by the guardians of the North and South Dublin and Drogheda union workhouses, from the junior pauper farms, which are allowed by the Society to compete with each other at these exhibitions. In addition to the farm produce, the South Dublin Union exhibited some superior pieces of tweeds and friezes manufactured in the house by the junior paupers to be made up into their clothing. A fine collection of roots and other farm produce was shown by the Albert Model Farm, and 23 minor farms under the management of the Board of National Education, very creditable to the Board and those acting under, more particularly so to Mr. Baldwin, the head superintendent. The samples of butter in both cools for present use, and in firkins for export, were numerous and of the very best quality, with only rare exception. Mill and hand scutched flax, and wool in the fleece were very good, but the exhibitors were not so numerous as they might have been.

The Dublin and Wicklow and Drogheda Artificial Manure Companies, and Goulding, exhibited samples of their manures, and specimens of the several materials of which they are compounded; and stands were appropriated to woollen manufacturers of Irish tweeds, fringes, and blankets, the pieces exhibited being of very superior make and finish. Several seedsmen and implement manufacturers and others put in an appearance, so that, upon the whole, it had the character of a miscellaneous fair as well as a cattle show.

JUDGES.

FAT STOCK.—Edward Rigby, London-road, Liverpool; Henry Greene, Dunboyne; Nicholas Ennis, Claremount, Julianstown.

SHEEP AND SWINE.—Alfred Darker, Clonsilla; Charles White, Erkindale, Rathdowney; David Kerr, Cloyne, Edenderry.

POULTRY.—W. G. Merry, Blesinton; Alexander Comyns, jun., College-green.

GREEN CROPS.—Alderman Mackey, Westmoreland-street; James Robertson, Mary-street; James Brady, The Cottage, Raheny.

CEREALS, PULSE, AND SEEDS.—David Drammond, 58, Dawson-street; Geo. J. Alexander, 2, Mary's-abbey.

BUTTER AND HONEY.—B. Murphy, Clare-street; Charles Byrne, 54, Kevin-street; W. J. Goode, Finglas House, Finglas.

FRIEZE.—Joseph Conan, 4, Dawson-street; Alexander Comyns, 10, College Green; James Reside, 20, College-green.

WOOL.—James Ganly, Usher's-quay; J. F. Dixon, 24, James's-street; Robert Millner, Queen-street.

AGRICULTURE IN THE GIRONDE.

This Department, which derives its appellation from the peculiar conformation caused by the junction of the two rivers Dordogne and Garonne, has given the name of the Girondists to one of the political parties which played such an important part at the commencement of the great French Revolution of 1790. It contains six arrondissements—Bordeaux, Bazas, Blaye, Réole, Lesparre, and Libourne, with a total population of 701,855 persons. The extent of land at the last inquiry was 1,860,876 acres, of which 899,390 acres were cultivated lands, 156,652 meadows, 286,516 vineyards, 875,110 woods, and 598,902 of what are called the "Landes." In 1865 there were 290,000 acres in cereals, of which 168,000 were in wheat, producing in all 627,444 quarters, which falls short of the necessities of the population, so that the deficiency has to be made up by importations. The cost of the cultivation is from £3 to as much as £9 per acre. The average size of the small holdings is 8 acres, of the moderate from 25 to 100 acres, and the large proprietary farm about 350 acres, but the latter are quite the exception. Besides the cereals are grown the vine, fruit, more especially prunes, figs, almonds, with vegetables of all kinds, and tobacco.

In Lesparre the hectare (or $2\frac{1}{2}$ acres) of arable land is worth 1,200 to 1,500 francs; in Blaye, for a hectare of alluvial land it is 2,500 to 3,000 frs., and for the best 5,000 to 6,000 frs. The meadows are worth from 3,000 to 6,000 frs., the woods from 1,000 to 1,500 frs. The hectare of vines is never less than 3,500 frs., and in certain localities much higher prices are given. There has been a general advance in the cost of land, which is attributed to the depreciation in the value of money, the improvement in the roads, the cultivation of the wastes, the rise in the prices of wine, and the subdivision of property. In all places the number of animals kept are not sufficient for the manure required; but guano can be obtained easily at Bordeaux, where the importations in 1863 amounted to 313,861 kilogs. more than in 1859, and since that time a like progression has followed. The system of cropping is mostly biennial: the fallow is not everywhere discontinued, but the tendency is in that direction. The forage, roots, vegetables, &c. alternate with wheat: in the marshes the cropping is triennial, wheat being sown two years in succession, and for the third year beans, peas, and sometimes maize.

The cultivation of fruit and vegetables has increased considerably of late years, and, owing to the attention paid to this branch of agriculture, the produce has assumed a very great importance. According to some statistics furnished by the president of the Horticultural Society, it appeared that between the 15th April and 31st August of 1862, 3,000,000 lbs. of "primeur," viz., strawberries, cherries, apricots, prunes, grapes, artichokes, and peas, were expedited by rail from Bordeaux, while 430,800 lbs. of other vegetables and 8,600,000 lbs. of fresh fruit were otherwise exported. In 1863, the total quantity exported exceeded that of 1862 by 7,597,274 lbs. In 1866, 1,800,000 lbs. of green peas, 800,000 lbs. of strawberries, 144,000 lbs. of cherries, and 11,000 lbs. of French beans were sent to Paris. We are indebted to Mr. Sackville West for particulars of the garden produce sent from the Gironde in the year 1865. This consisted of green vegetables, 669,920 lbs.; fresh fruit, 1,536,594 lbs.; preserved, 1,056,666 lbs.; dried, 13,323,258 lbs.; altogether, including herbs, plants, &c., 16,672,056 lbs.

This, however, does not represent the total production, because the consumption of the Department is not included. These crops which, in the rich soil of the Gironde require little expense in cultivation, enhance greatly the value of the land, and are the source of a considerable revenue.

The average prices are: A basket, containing 80 peaches, £4; greengages (Reine Claude), £2 the 200 lbs., and pears about the same price. Green peas, in season, $2\frac{1}{2}$ d. per lb. The prices, however, vary considerably. To give an idea of the commerce in fruit, we have been informed by a resident in Bordeaux that a single confectioner in that city has been known to purchase as many as 4,000 lbs. of Reine Claude every day for a fortnight, besides large quantities of peaches and pears, and he has expended as much as £800 in the purchase of apricots. There is also a species of wild prune which grows about Labresne and Bouillac, and which is very prolific. It ripens in the month of July, and as many as 2,000 baskets may be gathered in a day.

The extent of vineyard has increased from 286,516 acres in 1851 to 320,000 acres in 1869. An acre produces on an average $2\frac{1}{2}$ tons, which gives a total produce of 800,000 tons, valued at £8,753,200. Of this value £6,488,640's worth is exported. The consumption of wine in the Department is calculated at a little more than one-fourth of a ton per head. The wine-growing districts are the Medoc, Graves, Côtes Palus, and Entre-deux-Mers. The Medoc country comprises 40,000 acres, and grows the three "grands crus." The Graves country forms a zone thirty miles in extent. The vineyards are situated on the high grounds in the vicinity of the Garonne and Dordogne, extending from Châtillon-sur-Gironde to Langon. This is the Sauterne country. The wines of the Côtes district are St. Emilion, Pommerei, St. Laurent, St. Hippolyte, St. Christophe and St. George. The Palus and Entre-deux-Mers produce is inferior.

A great change in the mode of cultivation has been introduced of late years, which has apparently been attended with success, both as regards improved production and economy of labour. The vine is planted in such a manner as to admit of the plough instead of digging, and it is pretended by many persons that a greater regularity of depth is thereby obtained—an object of great importance in vineyard cultivation. Iron wire for trailing is coming into use, and is superseding the old stake system. The uncertainty of the crop however, and the expense of cultivation, renders a considerable amount of capital necessary. Some notion may be formed of the fluctuating nature of the wine crop from a statement of M. Clauzel, proprietor of the Château Citran, before the Agricultural Commission: "The property was bought in 1833 for £12,400, and grew 15 tons of wine on 80 acres. Increased cultivation raised the produce in 1840 to 120 tons, and to 264 tons in 1849. The disease now made its appearance, and in 1854 only 26 tons were grown. In 1856, 35 tons, and sulphur was then used, the produce gradually increasing to 300 tons." A small proprietor it is evident would have been—as, indeed, many were—ruined in 1854 by the disease. The growers foresee a formidable competition likely to arise before many years from the produce of California, which, it is asserted, is capable of supplying any quantity of wine of a quality not inferior to the first "crus" of Medoc; and it therefore is of great importance that the vine debilitated by

disease should, if possible, be re-invigorated. The cause of it does not seem as yet to have been ascertained, and no specific remedy can therefore be indicated. Although much diminished it still appears in districts least likely to be infected, and no grower can be sure of immunity from it. The effect of the epidemic has been permanently to raise the price of wine, notwithstanding subsequent abundant years and an increased acreage. From 1888 to 1850 the price of wine grown on the Château Citran estate varied from £10 to £14 per ton. When the disease appeared £32 was obtained, and in 1854 £60; and since then, according to the quality of the vintages, £40, £50, and £80 per ton were realized. It would seem therefore that the disease has benefited the large proprietors.

There are in the Department large tracts of "Landes," as they are called, which have attracted considerable attention at various times, and have been a problem for the engineer and the agriculturist combined. Some fifty years ago great apprehension existed of the destruction of the Medoc country by inundation, as the banks of sand which are the only barriers against the ocean were observed to be yielding. The idea then occurred of planting the pine-tree in order to bind the sand, and the result has been most satisfactory. Besides, it has been found that an acre of the pine-wood produces from 55 to 77 gallons of resinous matter; and although the high prices gained during the American war have not been maintained, the profit per acre is still calculated at from £2 8s. to £2 16s. An acre of good pine-plantation fifty years old is

now worth £30, which is treble what it was thirty years ago. The preparation of resin has become an important industry in the Landes districts, and employs a great number of hands. The liquid matter is obtained by tapping the trees, to the steps of which are fixed small earthen pots, into which it runs. A tree may be tapped when twenty years old, and will support this process for thirty years.

In addition to the culture of tobacco upon about a thousand acres, there are also salt-marshes which extend over 372 acres, producing 30,000 cwt. of marine salt annually. The management of these marshes, and the competition which exists between the salt-farmers of the West and the farmers along the coasts of the Mediterranean, where the climate and certain other circumstances are more favourable, have been the subject of a separate inquiry. Complaints are made of the scarcity of labour and the conscription, which is more injurious to rural life than any other cause, is a severe burden upon the land. The sons of the proprietors, taken from their homes, soon lose, in the majority of cases, all attachment to them and all interest in the soil. This appears to be more the case in France than in other countries, where it is sought in some measure to localize military service, and thus remedy the evil. The great increase also in the sale of wine has led to the development of an industry which is extensive in the Gironde—namely, the cooperage—and agriculture has suffered in consequence, as many labourers have quitted the fields to find employment in the manufacture of the casks.

FIELDS AND FOLDS AT HOME AND ABROAD.

Gouda is an old-fashioned town, famous for the manufacture of cheese, and also for a fine cathedral, specially rich in stained glass windows. This is a fact not very well known amongst tourists, who, if they knew the rich treat in store for them at the town, would not whizz past it so frequently as they do. The cathedral is a very fine and large building; the number of windows filled with stained glass is thirty-one, and many of this large number are very good specimens of the art. From the number of windows thus decorated, one may judge of the large size of the church or cathedral, for they are all large windows and at considerable intervals from each other. Standing at one end of the church and looking down the long vista, with the richly-coloured windows on each side, and up to the high and massive roof, the view is imposing and gives rise to many and varied emotions. The mere size betokens that one of two things must have existed at the period at which the church was built, either that the town was much more important than its size and appearance now indicate, or that the zeal of those who built it for the religion they professed must have been great. This last is most likely, and it is a feeling with which no well-regulated mind can do otherwise than sympathize, even though we should think the zeal misplaced. All honour be to those who in other days evidently thought of something else than the mere accumulation of wealth; who deemed it no small privilege to be allowed to expend it in the furtherance of a cause which they deemed important. We are too apt to ignore the value of what was done in the "brave days of old" and how much we owe to their self-denying exertions. Nor is the least valuable of the many lessons which we learn from travel, from moving in scenes different from those to which we are daily accustomed, from mixing with people of whom generally we have most prejudiced

because ignorant and mistaken views—that we learn to acknowledge the good that has been in other times, and the worth that exists amongst other people. Many a time have we had lessons taught us, and rebukes administered to us, upon points and in connection with prejudices which could only have arisen from ignorance.

One thing cannot fail to strike the observant traveller on the Continent, and this is, that in the grand and impressive structures which are so numerous met with, whether they have been erected for religious or secular purposes, they seem to have been built as if they were thinking for posterity, although we do not believe *this* to have been the ruling motive. They in the lesser buildings and in their own private domiciles built for themselves in such a way that they evidently liked and appreciated the beautiful; and this æsthetic feeling seems to have been so widely spread, that the owners of the meanest—in the sense of the smallest we use the term—house thought it worthy of being beautified, and this apparently with no other motive than of gratifying his own taste, not by any means with the view of thereby adding to the aggregate of the beauty in design and picturesqueness of situation of the town or village in which he lived and moved. Hence it is that an endless variety in design and detail is met with even in the meanest villages of many parts of the Continent; a variety which most thoroughly and strongly impresses the observant traveller with the conviction that he is looking upon dwellings, the inhabitants of which, in times gone by, thought for themselves, were tied down by no conventional rules in the matter of design, just if each had said to himself, "This is my house, and in the way I add to the comfort of its convenience and to the external or internal beauties of design and ornament, shall I set the mint mark of my own individuality upon it; it shall be at once a place for the com-

fort of shelter and delight of beauty." Often as we have wandered with increased and increasing delight through the quiet streets, green with the grass which grows not in the haunts of the busy and the bustling, have we been led to contrast the times in which these "dear, delicious," quaint old houses, rich with many a sculptured door or window, picturesque with many a pointed gable or projecting roof, were reared by loving hands, which in their rich variety told of a race each of which thought for himself, with the times we now live in, in which little, too little of this is seen. Is it that, as we progress in what is called civilization, we go back in giving expression to decision and self-assertion of character, and are content to do slavishly as others do, to follow the multitude in whatever it does? We are bold enough to believe that in the tame uniformity and bald deformity of our domestic architecture, there is something which indicates, if it does not positively influence, the *morale* of modern peoples.

Gouda is a town in which much of what we have now been speaking of can be seen; and, small town as it is, there is that in it which presents a most striking contrast to what we can show in our towns of the same class. A day or two may therefore be pleasantly employed in wandering through its streets, and profitably too, if the wandering feet be accompanied by the observant eye and thinking brain. We would counsel the traveller to take a drive into the country, and if he is, as we presume him to be, interested in agricultural matters, to visit one of the numerous farmhouses which will be met with in the drive of an hour or two.

We took a drive one lovely evening, and as we bowled along the well-kept road, "as level as a die," and saw on either side the meadows with their herds of the "patient kine," which might well have been patient with the rich grasses on which they fed; and, as we passed, quaint old-fashioned houses, one after the other, each with their well-kept garden in front, rich with a glorious profusion of flowers, gorgeous in colour and sweet in perfume—for the Dutch are great lovers of flowers—we enjoyed ourselves exceedingly; nor did we lack the extra pleasure arising from having an object in our drive, for we were purposing to visit a farm-house, the owner of which had a high reputation as a "good Gouda" cheese maker. As we drove along we had a good opportunity of noticing much of the extensive economy, at least of the extensive arrangement of the farm-houses, which were on either side of the road. As a rule they were placed not here and there in the fields at varying distances from the road, but (and this probably arose from the distribution of land and water in alternate strips, to which in our last article we alluded) they were placed close to the road, with this difference, that between the houses and the road a pretty broadish canal on both sides of the road intervened. This necessitated a mode of gaining access to each house, which as you were availing yourself of it made you think of the olden times when each house was defended by a moat, across which you had to pass by the drawbridge let down for you. In this case the drawbridge is replaced by a small floating bridge or platform, which to prevent intrusion was moored at the side opposite to the road, so that we had to shout to the inmates of the house on the opposite bank to make them aware we wished to visit them; and very heartily on our reaching the bank they received us, though utter strangers, whom they had never seen before, whom they were likely never to see again once they had speeded us on our way. The first place we were ushered into was the working chamber or kitchen, as it might be called. A huge barn-like structure it was, very much opposed to what our notions of such a place should be. At first glance it seemed to

possess none, at least few, of the attributes of the order and precision which are the popular characteristics of the Dutch; a fire, or rather the remains of one, lay smouldering in the huge open grateless fire-place—not of coal, but of peat, which is got in abundance in the neighbourhood, as we may judge, from the numerous black pools in the district, with their mossy sides and heaps. At the opposite end the cheese-making part was placed, with its rows of curd tubs and dairy utensils. As already said, the general appearance of the place was anything but Dutch-like, still a more observant glance showed that there was order amidst the apparent disorder, and the national reputation for cleanliness was not belied in the condition of the utensils; nor in the person of the comely, burly, housewife, who gave us such a hearty welcome, and at once began to show us "her treasures new and old." Of these, doubtless, the cows would have formed the not least valuable portion had they been at home; but the "cattle had not been called home," they were browsing to their hearts' content in the rich pastures beyond the canal, and were therefore only to be talked of, not seen; but with as much pride and glee as the boy who once had a sixpence but had spent it showed off the purse which had contained the treasure, she showed us the stalls they would have occupied had they been at home; and from the way she talked of them, and the pride she took in showing the milk and talked of the cheese which the milk produced, she let us know that in her opinion they were "sehr schön," very good cows not a doubt of it. As to the cow-house, there was nothing very particular about it, not even its order and cleanliness, although it was by no means dirty, yet it did not come up to anything like the condition in which we have seen so often exemplified in cow-houses nearer our home. In many of the cow-houses of the Netherlands the cows are fed not in the stalls but from a feeding passage at the head of the stalls. This is not open overhead as with us, but is in reality a distinct apartment; although, of course, narrow and passage-like, still of good free width. The way in which the cow gets at the food seems odd to us; a long aperture broad at the top and narrow at the bottom and curved at these points, is made in the partition which divides the stalls from the feeding passage, and through which aperture "crummie" quietly shoves her head when the food is placed in the "licking-tub" in the feeding passage, and at other times too, for we often saw her looking through the aperture when no food was there for her, with that look of apparent wisdom which one often sees in cattle, and as if the prospect was, if not enlivening, provocative of intense thought, doubtless, if we could read it, of the mess of food which would be there at its proper period. This arrangement of feeding passage is done, no doubt, with a view to the obtaining of the quiet which we all know is so important. With the same view the cow-houses are generally dark, at least not well lighted. The cow-houses are generally quite close to the house, so close indeed that in some farm-houses direct access is had from the kitchen to the cow-house, an arrangement one would think more convenient than comfortable; in such cases the cow, like the Irishman's pig, is esteemed as one of the family, and treated accordingly. The animals are all house-fed in winter-time, and the leading food is hay. The hay-house forms, therefore, an important part of a Dutch farm-house, for it is well kept under cover. So far as our observation showed, we do not think the practice of cutting the hay is extended, although hay-cutters we have seen, and evidences also that mashes or boiled food were part of the dairy economy, to one important part of which we now come. The "guidwife," a bouncing, blooming woman, in the fair way of acquiring the true "Dutch build and

breadth of beam," obligingly showed us the process of making a "Gouda cheese," so far at least as the working up of the curd into the peculiar form so well known, and its after management. She did not show the same readiness to detail the preliminary processes, but we believe the following method is pretty nearly that followed by the best makers, at least it is said to give a product as good; it is for those of our readers who are skilled in dairy work to say whether it is worthy of adoption amongst us. The rennet is prepared very carefully, being steeped in water along with salt and saltpetre and about a quart of wine vinegar, the whole being allowed to stand for about three weeks. About a gallon of water is used, about ten pounds of salt, two ounces of saltpetre, and six "bag pieces," or stomach of the calf. The milk used at one time is that produced at one milking, and is put into a wooden vessel, which we need not say is kept in Holland most scrupulously clean, as all dairy utensils should be kept if success is desiderated. In the farm now under notice there were several vessels, and all of moderate size. On the rennet being added to the milk, which when required is slightly warmed, the whole is gently stirred. When the curd is formed the whey is poured off, this being expedited by breaking or pressing the curd with the hand. So far as we saw the curd was not cut up or broken with a "curd breaker." A small vessel is next taken of the same internal diameter and depth as the finished cheese presents; into this a portion of the curd is placed, being taken from the curd vessel in a small dish. The small vessel or mould is provided with a perforated sieve-like bottom, and the whey passes through the perforations as the curd is carefully pressed down into the mould. As the curd gets dry other portions of curd are placed in the mould. But the process is not one of pressing merely—a careful and thorough kneading of the mass is gone through; this being done by the hand, and we presume has for its object the giving of that close compact solidity to the cheese which is one of the characteristics of "Gouda," for, as is well known to those who eat it, it is not an open friable cheese like some English-made cheeses. When the mould is filled sufficiently with a well-kneaded mass, it is taken out and worked most deftly into proper shape by the hand, in which process the flat

edge gradually assumes the rounded form so well known. During the shaping the compressing process is carefully attended to, and the surface repeatedly washed with the whey which has escaped from the curd, and which has been collected in the vessel, upon the top of which the mould stands when being filled and pressed, the whey being merely lifted up by the hand from the vessel, or the cheese dipped into it. The accuracy of the form given to the edges of the cheese is only gained by long practice. The formation of the cheese from the time the mould is first filled till that when the cheese is finished is about a quarter-of-an-hour or twenty minutes. The great point aimed at in the manufacture of the cheese at this stage is evidently to get the whole mass into a collection of perfect uniformity and as compact and close in texture as possible. The pressure to which the cheese is subjected is at first slight and is gradually increased; but the pressure is not nearly so long continued as in other cheeses, which may be well conceived from the nature of the process already described through which the cheese is put previous to being pressed. After being taken out of the press the cheese is steeped for about a week in a strong salt pickle, so strong as to float an egg, and is, while in the pickle, kept covered on its upper surface with a layer of salt. The cheese is then placed in a cool chamber upon a shelf, and turned from time to time till it is fit to be sent to market. It was with no small degree of pride that the housewife showed us her store, with none the less but rather the more satisfaction, however, that her store was little, she having sold nearly all her stock. It was hard indeed to say whether she had more pride in her cheeses than in her little "kammer," a sitting room, the ornaments of which she showed with a natural simplicity, and almost childish glee; which pleased us mightily, as all natural behaviour always does. She was disposed, like all good-natured people are, to be very communicative; and, if she had known English or we Dutch better than either of us did, we have no doubt that a full, true, and particular account of her and her belongings would have been given us. Fortunately she knew, and we understood enough of German to enable us to get much pleasant information as to farm-living and farm-ways amidst the green pasture-fields of Gouda.

STOWMARKET FARMERS' CLUB.

THE BREEDING AND MANAGEMENT OF PIGS.

At a monthly meeting of this Club Mr. STEARN read a paper on the breeding and management of pigs. He dwelt on the importance of the pig, an importance now recognized by Agricultural Societies, and spoke of the astonishing fecundity of the sow, and the value of the flesh of the animals as an article of food. He said formerly large breeders and graziers thought the pig beneath their notice; but the thing was changing, for he supplied gentlemen in Australia, America, and almost all parts of the world. Still he was often both disgusted and surprised to see what a disgraceful lot of pigs was still kept by many large agriculturists as well as small ones, such, as if kept to any extent, would ruin any one, for they ate an enormous quantity of food, and would neither grow nor fatten upon it. He had studied the management of pigs for the last thirty years, and had found that the better the attention paid to them the greater the profit, and if a person wished to make a pig pay, it must be kept well when young, and not allowed to run twelve months in almost a starving condition. He must first speak of the piggeries, and he must say he seldom saw one he considered fit to put a pig into. Some were badly ventilated, others low and damp, nine-tenths

too small, some too confined, with no means of altering them between summer and winter, and many had the cisterns to receive the wash, &c., from the house inside them, which was very bad, the constant stench injuring the health of the animals, and was most unpleasant to those who had to attend to them. But the worst sties were those with wooden floors laid over a pit, which became full of unwholesome rubbish. He had said he was surprised at the pigs kept by many persons; but he did not know if he ought to wonder so very much, when he took into consideration the general construction of places in which they were kept. If there were one corner on the premises worse than another, there the pigstye was placed, and people almost wanted marsh boots to get to it. There was no question that it would be a great boon to the tenant-farmers if landlords would take more interest in providing better buildings for the pigs. It was not the most expensive place that was the best, but what was required was a simple, economical, well-situated, and well-planned piggery. Some built expensive brick and stone buildings, which he had proved were not so healthy as a boarded building, tiled and slated; it should be reeded and plastered underneath to pre-

vent the heat of the sun penetrating in summer and the cold in winter, with a ventilation at the top made to open and shut. There should be half-doors. The farrowing pen ought to be large, to give the sow plenty of room, and to admit of rails being placed round the side, so fixed as to prevent the sow lying on the little ones. These rails should be made to shift according to the size of the sow, from eight to twelve inches high, and extending about nine inches from the wall, having the supports carried out sloping from the rail to the wall, instead of straight from the floor, so as to leave plenty of space for the pigs to pass between the sow and the wall. Since he had used these farrowing rails he had had hundreds of pigs, and had lost scarcely any from being crushed, whilst taking an average of the country nearly half were lost from that cause. Each pen should be 8 ft. by 10 ft., and the best floor was asphalt or concrete. Boards could not be healthy, for if placed close the moisture stands, and the floor becomes sootweated, and if a space be left the refuse litter goes between, so that it will become a mass of putrid matter, likely to bring on all kinds of diseases. In cold weather asphalt or concrete was too cold for very young pigs, and he had false lattice floors to lay down. These were taken up when required, and everything swept from underneath. He had the beds attended to, and fresh littered every morning, for the cleaner a place was kept the better the pigs thrived. The floors were washed down occasionally, and everything ran off, the asphalt or concrete soon drying. Another advantage of such floors was that they did not take more than two-thirds of the straw required for any other floor, for the moisture seemed to run under the litter without wetting it so much, the floor being laid a little on the slope. The litter from the pens served for the pounds outside, which ought to be paved in some way to prevent the pigs rooting. A tank should be made just outside to receive the drainage from the pounds, the building being troughed to take off the rain water. The manure was thus made regular and good. On the hot-days such a piggery was cool and pleasant by opening the lower doors. Lattice slips were put to all the lower doors to prevent the pigs getting out. Whilst pigs were perfectly cool in this model piggery, the herdsman had to go round several times in the day to all the other places with a watering pot to pour water over the pigs to keep them alive. He then spoke of breeding, saying that in selecting pigs for breeding, great attention should be given to choosing a good breed that would come to early maturity, for that was where the profit was gained, and the better the quality of the breed the less food was required to bring them to that maturity. He considered no other breed so well adapted for most localities as the black and white Suffolks. The improvement took place not before it was wanted, for a worse animal could not be found than the old Suffolk pig, with its long thin snout, large lap ears, arched back, long legs, thin body, coarse, bristly hair, thick, long, straight tail—in fact, with everything to make it a disgusting-looking brute. When he read a paper on "Swine," a few years since he said he did not like black pigs so well as white, but by judicious crossing they have become equal to the white, and he now had scarcely a preference. They were similar in form and symmetry, and both come to early maturity, and fattened to a great weight with a small quantity of food in proportion to that weight. In choosing the boar and sow of the Suffolk breed, the chief points were a rather small head, with wide, heavy chaps, short snout, broad deep chest, ears rather small and thin, with the ends sharp and pendulous, pointing a little forward, roundness of rib, shortness of leg, and small feet, long body, the thigh well dropped close to the back, shoulders and hams thick, the neck rising well behind the ears, small bones in proportion to the flesh, broad or straight, or slightly rising back, tail small and curved and placed high, hair thin, long, fine, and silky. As much or more attention ought to be given to the boar as the sow. He preferred sows for breeding to be rather larger than the boar and good sized animals, they being more likely to have a large number of pigs. He considered ten or twelve pigs sufficient in the general way to bring up. A sow for breeding should have ten or twelve pups. He did not recommend breeding very young. The proper time for the sow to begin was from ten to twelve months old, the boar being from eight to twelve months. It was well to cross as far distant as possible, occasionally so as to strengthen the constitution. Some time back

he purchased sows from two gentlemen, one of whom had bred in, for more than 30 years, and the other for 60. The first farrows they produced with him came out full of ulcers, the legs of most were crooked, with large spavins, and many turned out good for nothing. When wishing to make a cross, his plan was to buy a sow of a different blood, and then to fall back on his original stock, retaining, by this means, the same character without injuring the breed. The time of gestation averaged about 113 days, but old sows were rather longer than young ones. A sow in pig should have full liberty to roam about, and feed on grass in the summer, whilst in winter she should have roots of various kinds, and about three-quarters of a pint of beans per day. At the time of farrowing, the proper plan was to have a man with the sow to attend to her, as it was not wise to lose half, or perhaps the whole of the pigs for want of a little attention at the most critical time. He also gave only a very small quantity of litter cut short, and he had a hamper placed in the pen with a little straw in the bottom, and lined with an old blanket. A partition about 2½ feet high was put across the pen to prevent the sow getting at the hamper as the pigs came out. The pigs were placed in the hamper and kept there till the sow had done farrowing. After that they were put to the sow to suck, and then put back to the hamper. The sow had then a little warm milk and bran given her, and the bed was attended to whilst she ate this, and the pigs were allowed to go to her again after she had finished her meal. He found that it was the cheapest and best plan to give the herdsmen 6d. each for all pigs he could bring up to a month old. As to a sow eating her young, the cause was that in some litters the side teeth were much longer and sharper than in others, so that when the pigs began to suck they bit, and scratched the paps, and caused irritation, which sent the sow mad with rage; she threw one one way, and one another, and if she drew blood would eat the pigs, and a sow that once did this was no further use for breeding. His plan to prevent this was to take away the pigs in the hamper, so that the sow could not hear them, and nip off the long teeth with a pair of pincers. When they were put back the sow would be found to be kind to them, and perfectly docile. With his model piggery, he preferred breeding in the winter, as the building could be easily kept to the proper heat, and after proper care for the first day or night, the cold did not appear to affect them so much as heat. Pigs, which were farrowed in January or February, would grow and thrive in the spring and summer, after being kept eight or nine weeks with the sow before being weaned. They were then fit for either breeding, feeding, bullock yards, or anything for which they might be required in the autumn. By this means they could have another litter of pigs in August, instead of October, for when farrowed too late in autumn young pigs would not thrive through the severe weather in winter, and if they were turned as usual into cold yards or open piggeries, they would be worth very little more for their two or three months' keep. Eight weeks in summer and nine in winter will be found a good time for weaning pigs, and he liked to have those which were, not saved for breeding operated upon a short time previously. Boars, for stock, he kept confined in a shed with a roomy yard, allowed them plenty of water and fed them on any food which was most convenient such as vetches or mangold wurtzel. As to feeding, when the pigs were about three days old, and whilst the sow was feeding, he gave them some new milk, warm from the cow, sweetened with a little sugar. In three or four days he mixed half-skimmed milk and some oatmeal or sharps, leaving out the new milk by degrees, as well as the sugar, replacing them by Indian corn or barley, whole. The sow should be fed on mild food for a few days, such as bran mixed with warm milk. After a few days add barley or bean meal, and increase the quantity of these as the pigs grew. For a few weeks after the pigs are taken off the sow they cannot be fed too well or too frequently, but care should be taken not to give them too much food at a time. He gave them a variety of meals, as were most convenient, wetted them with cold and scalded with boiling water, and sprinkled it with a little salt. The food was mixed a day in advance which gave time for slight fermentation. In summer the food was mixed entirely with cold water, and given cold. Between meals he gave the pigs whole maize, mangold, and swedes, cut small, with a little coal or soil occasionally, and he allowed them plenty of clean water. For fattening he gave wheat, barley, and maize meal mixed together into slops, water always kept

by them, and a little mangold cut for them occasionally. Washing and brushing was very beneficial. The difference between this and the common method of treatment was most surprising. Store pigs should have their liberty as far as convenient, and have the range of large yards in winter and of a piece of pasture in summer. Well-bred pigs, properly fed, would always consume the refuse of the farm and dairy. As to the tails of young pigs falling off, the cause was a mystery he had not been able to solve. He gave in detail his experiments, made with a view to test the generally-received theories, and said, "I have quite made up my mind it is neither breeding, feeding, hot weather, cold weather, nor easterly wind which is the cause, nor does it signify whether the pigs are black or white; therefore I must leave it to some one with a wiser head than I have to solve this mysterious affair."

Mr. COCKSEGE asked Mr. Stearn if he had seen a pen of pigs at the Islington Show, sent by the Rev. Mr. Baily, of Swindon, a great breeder of Berkshire pigs. There were three of them, and very fine specimens. They had been sent to the Birmingham Show, where they took the first prize, but at Islington the judges would not even allow them to be placed. The matter was very much discussed during the show, and perhaps Mr. Stearn could enlighten them as to the cause of this decision at Islington.

Mr. STEARN said he knew all about it, but did not know that he could state all that he did know.

Mr. COCKSEGE said the pigs went to London in nobody's name, but with a number.

Mr. STEARN said he was astonished. He was, in fact, asked to go and look at the pigs. He found them to be a pen of beautiful pigs, and they had been put on one side as of "Not sufficient merit." They were not fat enough, and that was the cause of their being rejected.

Mr. COCKSEGE: They were only three months old.

Mr. STEARN: I beg your pardon, they were nine months old, but the Berkshire breed cannot be fatted so early. They were, however, a pen of beautiful pigs, and it was a good bit too bad to put them on one side.

Mr. COCKSEGE: May I ask you if the tail of a pig is of any great importance to the pig? Why I ask is that I want to be practical. I have been in Wales, and there the shepherds never bite off the sheep's tails, but let them grow, because they say they serve to keep the sheep's bellies warm. I don't know whether that little fine tail of the pig serves to keep the pig's belly warm.

Mr. STEARN: It is about as useful, perhaps, as one of your ears. You might cut one of them off.

Mr. COCKSEGE: I should hear as well.

Mr. STEARN: That might be, but you would not look so well. You would prefer a pretty girl to a bad-looking one, would you not?

Mr. S. SCOTT asked Mr. Stearn what proportion of sugar he used for the young pigs.

Mr. STEARN: I can scarcely say, but I make it pretty sweet.

Mr. S. SCOTT: How much sugar to the pail of milk, I mean.

Mr. STEARN: I don't mix so much as that at a time. To a pint of milk I put a tea or perhaps a desert spoonful of sugar.

Mr. SCOTT asked Mr. Stearn what was his opinion of the use of acorns as pig food.

Mr. STEARN said he did not like them at all. He had tried them, but nevertheless did not like them. He believed he had suffered this summer from the use of acorns. He had lost several very valuable pigs, only from eating acorns.

Dr. SHORT: May I ask why you thought you lost them from that cause?

Mr. STEARN: Because those that ate acorns died, and those that did not eat them, did not die.

Dr. SHORT: But what was the cause of death? Did they produce constipation?

Mr. STEARN: Yes, the bowels were too much confined.

Mr. LINGWOOD asked Mr. Stearn if he had ever noticed a difference being indicated in the young female pigs, between those that were good and those that were but indifferent breeders, in the placing of the paps? It was a matter of experience with him that where the paps stood in two rows evenly, the sow would be the better for breeding than where they were uneven or irregular.

Mr. STEARN said he thought the straighter the paps stood

the better for breeding. If they were scattered or a little out of the straight, such a pig was seldom very good for breeding.

Mr. LINGWOOD said he was inclined to think that the better the pigs were bred the fewer they would find that were so formed.

Mr. STEARN said he could not say he had ever noticed that. In fact he had never had any very bad ones to deal with.

Mr. PAGE: You had your stock from me.

Mr. STEARN: Mr. Page says I had my stock from him. I do not know, I am sure, but I have as few bad ones as possible. Mr. Stearn added, in reply to Mr. Lingwood's further questions, that he generally put such pigs on one side.

Mr. LINGWOOD said he believed attention was not always paid to the indication he spoke of. The largest and strongest animals were set aside for breeding with very little regard to the point he spoke of.

Mr. WOODWARD (the Secretary) said he invariably found that the largest pig would make the most productive mother. Still he always saved for breeding those sows whose paps were formed in the most regular way. He did not think, however, that there was much dependence to be placed on the rule for saving pigs. He had found the smallest to make the best breeders and the best mothers.

Mr. H. A. OAKES asked if the size of the animal was not of great importance. In breeding, he believed it was generally held that breeding animals could hardly be too long.

Mr. WOODWARD said that he considered size and length of great importance in breeding sows. He gave the preference, too, to long animals before short ones. Was that Mr. Stearn's practice?

Mr. STEARN: Yes.

Mr. WOODWARD: How about the condition of your breeding sows? I don't care about keeping them too high at the time of farrowing.

Mr. STEARN: No; keep them as low as you can. Bran slops a few days previous to farrowing, and after you take the pigs to her give better food.

Mr. WOODWARD said he quite agreed with Mr. Stearn as to the importance of the subject. He did not think that any more profitable stock could be bred than pigs. They must, however, in starting, see to the breed. He quite agreed with Mr. Stearn that no profit could attach to the old Suffolk pigs.

Mr. STEARN said that a neighbour of his had tried a lot of them, and found, amongst other evils, that they were so wild as almost to destroy the place they were kept in. He then put into the place some that he considered well-bred, and they were quiet enough.

Mr. H. A. OAKES asked Mr. Stearn the cost of his piggery as shown in the model.

Mr. STEARN said that with poplar boards it would cost about £25.

Mr. OAKES: Then you don't advocate the use of the brick and mortar? Wood is more generally the tenant's work. If the landlord builds, he expects it to last for 30 or 40 years.

Mr. STEARN: This will last 30 years ("No, no.") My poplar board building is now ten years old, and I believe it will last that time. It is as good now as when first built.

Mr. OAKES: I believe if all landlords would supply good buildings it would save the tenants great expense. Good lodgings save food, for warmth is equal to food. The better the buildings the easier it is to fat the stock.

Mr. STEARN said, that he employed his own men to put the piggery up, instead of tradesmen. It was only asphalted inside. If they went to the timber yard and bought the boards, he did not think it would cost above £30.

Mr. OAKES suggested to Mr. Page that it might be cheapest for him to go to his landlord and get him to build the place and pay five per cent. for the outlay.

Mr. PAGE said that might cost him too much, as he might live too long and pay too much that way.

Mr. WOODWARD said he thought there would be no difficulty in getting such a building for the money Mr. Stearn spoke of. It was 24 feet long, and they usually calculated that open sheds 18 feet wide, brick and tile, would cost £1 a foot running measure.

Mr. STEARN explained that the aspect of his building was south, and he pointed out that the doors were so arranged that a thorough draught could always be secured. As to

feeding the pigs when very young, the sweetened milk was put into shallow troughs. Of course the young pigs were frightened at first and cut off, but they would soon return and begin to nibble at the edge of the trough, and from that they soon began the milk.

Mr. WOODWARD : Then, you don't begin by giving them maize ?

Mr. STEARN : No, not till they are four days old. Then we begin to give it soaked, as, of course, they cannot eat it without soaking.

Mr. WOODWARD : Will young pigs begin to eat maize at four days old ?

Mr. S. SCOTT : I was about to ask the same question.

Mr. STEARN : Yes.

Mr. HATTEN asked how much salt was given with the meal.

Mr. STEARN said he could not say. He merely threw a handful in the cistern now and then, as the meal was mixed. The pigs seemed to like the food the better for it.

Mr. LINGWOOD said he knew of a case where too much salt had been given, and the pigs died. Salt for pigs was all very well after they were dead.

Mr. S. SCOTT asked if Mr. Stearn really thought that there was any profit in the rearing pigs for cups. Of course it was very nice, but was there any real profit about it ?

Mr. STEARN : I must say I think there is more profit in the breeding and rearing pigs than there is in any other animals. As Mr. Page knew, he had tried almost everything, and he

found that nothing paid like pigs. He had a lot of bullocks once, which paid him 10s. 6d. a week, at a cost of 13s.

Mr. PAGE said no doubt the pig was the most profitable animal they could put on the farm, but unfortunately they had not the attention they ought to have. They had not from himself he knew, and he thought he might answer for almost everyone in the room except Mr. Stearn.

Mr. STEARN said it was very important to have a good herdsman.

The CHAIRMAN : Generally the pigs are left too much to boys.

Mr. STEARN ; Generally the master does not look at them once a month.

Mr. PAGE said he did not ; but confessed that he liked sheep better, because there was some wool. He must say, however, that he had never seen a pig eat whole maize at four days old. Sometimes he had given them a few oats, but they could hardly manage them. He should like to see them crack Indian corn, for he was quite an advocate for feeding young pigs, but never could get them to eat under ten days.

Mr. KISTRUCK : Perhaps you have never knocked the teeth out.

Mr. FRASER said it was, doubtless, of the greatest importance that pigs should be kept clean. Mr. Page appeared to question some of Mr. Stearn's propositions, but he could hardly do so, when he said he did not see his pigs once a month.

A vote of thanks was passed to Mr. Stearn.

THE WENLOCK FARMERS' CLUB.

At the last meeting, a discussion took place on "The evil arising from the present system of importing foreign stock."

Mr. H. W. KEARY said he was not one of those who ascribed all the evils of the present day to the free introduction of stock. Pleuro-pneumonia and the foot-and-mouth disease—diseases from which they suffered more than any other—he did not think originally came from abroad, or, at any rate, he did not think they were now propagated by the introduction of foreign stock. Properly speaking, they were epizootic diseases. He thought they arose from atmospheric causes, for they frequently found them breaking out in districts where no foreign stock had been introduced. He had known something about farming for forty years, and his impression was that pleuro existed in this country long before the free introduction of foreign cattle. His impression was that both pleuro and foot-and-mouth disease were rife in this country before foreign cattle were imported. But some diseases came directly from abroad. There could be no doubt whatever that diseased cattle were introduced, and it was equally certain that the present system of importation was objectionable. If any plan could be devised for compelling the animals imported to undergo a quarantine, or for slaughtering them at the ports of disembarkation, it would, he thought, be very desirable. There were difficulties in the way of the latter remedy which he thought would render it at least difficult to carry out, and he was therefore of opinion that a complete system of quarantine would be most desirable, especially if certain ports were defined for disembarkation, and animals were not disembarked promiscuously at any port in the kingdom. He thought also that very many of the evils farmers at present laboured under might be avoided if a different and a better system were adopted when those diseases existed in a district. As to the foot-and-mouth disease, he thought it was propagated sometimes in the most unjustifiable manner by the carelessness of those upon whose farms the diseases already existed. There were gentlemen at that table who could bear him out when he said that the disease had been carried about in the neighbourhood of Bridgnorth—between Wenlock and Bridgnorth—by the practice of allowing pigs to run about, from farms where the disease existed. They knew that the habit of the pig was to get into every hole, into every filth, and he did not know any animal that would be more likely to spread disease. He thought that when disease existed on a farm, no animal ought to leave it. Although

he admitted that the restrictions which had been enforced upon the farmer were exceedingly inconvenient, and had been attended by heavy loss, yet he believed those restrictions were attended by very good results in preventing the spread of their local diseases, and he thought the manner in which diseases were spread about the country had now become so apparent that more stringent rules than existed at present should be enforced as to the movement of cattle. He thought some simple machinery might be devised for carrying this out. As to the foot-and-mouth disease, although it was a troublesome disease, it was rarely fatal, nevertheless the milk of a diseased animal was most dangerous for a human being to drink. He did not think pleuro could be communicated so easily. He was not sure that it could be communicated except by contact with an animal already diseased. He thought it a subject well worthy of their consideration as to whether some more stringent rules could not be enforced to prevent infection spreading when disease existed in a district.

Mr. EVAN DAVIES, sen., would like to correct one part of Mr. Keary's speech. That gentleman had said that foot-and-mouth disease and pleuro were in England before the introduction of foreign cattle. What he meant, no doubt, was the free introduction of foreign cattle. Pleuro, he (Mr. Davies) believed, was introduced into this country by Dutch cattle in 1840. He was fully aware that that was a very delicate question that they were going to discuss. He recollected the enthusiasm with which the struggle for free-trade was carried on, a quarter of a century ago, and he believed that the man who now attempted to introduce the old question of protection would be met with ridicule. Acknowledging this, but believing at the same time that the result of free-trade had been to enrich others more than ourselves, yet he did say that the farmers of England should at least have fair play. All they asked for was just and equitable laws. Give them those, and they would defy the whole world. They did not intend to appeal to the country to put an end to the introduction of foreign stock. No ; but they did wish to impress upon the legislature the necessity of taking efficient means for preventing the importation of diseases, and the dissemination of them over the country by which their flocks and herds were destroyed. For himself he had no doubt whatever that that was a question as much affecting the interest of the consumer as the producer. His belief was that the supply of animal food in this country had been lessened rather than increased by the introduction of foreign cattle. He would read

the substance of a report drawn up by Mr. Kilby. From this it appeared that during the last thirty years cattle had been destroyed by lung disease of the money value of £53,597,198, by foot-and-mouth disease £43,389,219, and by rinderpest £4,647,378; making a total of £100,633,795. It was entirely from foreign diseases that that great loss had been sustained. Then, again, the Government statistical returns for 1868 put the cattle stock in Great Britain down in money value at £78,809,203, so that the loss sustained by foreign diseases exceeded the value of all the cattle stock in Great Britain at any one time by £21,824,592, or, as Mr. Kilby had put it, 127 per cent. on the stock held by the British farmer. This was a great loss. Had the country been compensated for it? He feared not. He believed, and his belief was borne out by facts, that the British consumer was seven per cent. worse off than if he had never tasted foreign beef at all. The present price of beef was strongly confirmative of this. Taking the five years preceding the free introduction of foreign stock, the price of beef was 5½d. per lb. Now it is 7½d., so that the effect of the introduction of foreign stock has been to mulct the consumer in 2d. per lb. Some might say that the rise in price was caused by an increased consumption, but he did not think that accounted for it. He knew, when the consumer was smarting under high prices, it was a common thing for him to say it was the farmers' fault, but he denied that *in toto*. He maintained that the farmers of England had struggled hard, and had struggled successfully, so far as was possible, to keep pace with the population. And so long as the consumer was content to be fed by the British farmer, he was well fed and fed cheaply. He enjoyed his beef at 5½d. per lb., but when he began to grumble and went elsewhere for a supply, he had raised the price of his beef by 2d. per lb. He thought, under all those circumstances, that the consumer ought to join the producer to press upon the legislature the necessity of taking such steps as were necessary for the whole of the cattle to be killed at the ports of disembarkation, or at any rate to adopt some stringent measures to prevent the spread of diseases that did such damage to the farmer and also the consumer.

Mr. H. BURTON read the following statement of the regulations observed upon the importation of foreign cattle: "The Privy Council watch over the importation of foreign cattle with extreme care and attention, and I may say anxiety, and are very exacting in having their directions complied with; no time or trouble is spared in meeting every emergency as it occurs, such as notice of disease in any particular quarter; very little (if any) discretion is allowed the Board of Customs. Instructions are received from time to time from the Privy Council as to what prohibitions are to be enforced, which makes it somewhat difficult to give you more than a general idea of the practice or system which Mr. Keary styles an *evil*, as it differs under so many different circumstances; but everything is defined, and nothing allowed, as a matter of course. I must speak more particularly of the Metropolitan area; the outports are governed by special rules, according to local conveniences. The importation of cattle is looked upon as merely permissive, being necessary for food, and not for feeding or breeding purposes. Upon this principle is established a groundwork, whether at outports or London. All cattle arriving from a non-infected country are examined on landing, kept in quarantine for twelve hours, and then examined again. If landed at Thames Haven, they are sent up to the Metropolitan Market by railway, to be slaughtered; and the same process is allowed only at other specially-defined landing-places. There is a landing-place at Plaistow, where the cattle are slaughtered on the spot, which operation must be performed in all cases, although a clean bill of health is proved, within ten days. No single head of cattle (or more) once entering the Metropolitan area is allowed to go out of it alive. Should a cargo of cattle arrive from an infected country all must be slaughtered on landing; a certain time elapses and disinfection takes place before the premises are again used. Should a cargo arrive from a non-infected country, and one head thereof is diseased, all are slaughtered on the spot. This applies equally to oxen, sheep, swine, goats, &c. No regulations could be carried out more stringently, the idea being that the importation of cattle is necessary to provide food for the country, and in this case it does not matter whether the supplies reach the market dead or alive. The following illustration of the strict measures

adopted is worth recording. The Queen recently had a bull sent her from the Duke of Saxe Coburg. It was for breeding purposes, and of course was only of use alive. The correspondence about the beast was most voluminous. It was at last allowed to be sent to Southampton, this being the nearest point by sea where it was required. It remained in quarantine twenty-eight days, and Her Majesty had further to give bond for £100, as a guarantee that the stipulations of the Privy Council were complied with. It is impossible for me to guess at the *evil* (perhaps it is because it keeps down the prices) pointed out in the notice which calls the Farmers' Club together to discuss. The simple truth seems to me that the people of England will have "roast beef," and the country cannot produce a quantity equal to the demand. It is, therefore, actually necessary to import stock. The question remains, how to do it without spreading disease—a contingency which is always to be provided for. As a practical effect of your deliberations, if the resolutions passed are forwarded to the Privy Council Office, I am sure if there is a precaution discovered, or an original idea expressed, a very courteous and considerate reception will be given to the same. In advancing the information which I now supply you with, although I know it can be relied on, so far as regards the practice here, I cannot imagine that a man like Mr. Keary would propose to lead the discussion without he was prepared to prove that an evil existed, or that he had found out a grievance, and with his interest and general knowledge I must give him credit for knowing something. Allowing that there may be "a something" which has not come under my notice, still the authorities would never adopt the extreme care they do in London, and allow it to be entirely nullified by laxity at the outports, so you may depend upon the same general preventive measures being in force throughout the United Kingdom, and if so what more can be done?—when it is impossible to stop the importation of what is called "foreign stock," but is in reality the nearest imaginable approach to *dead meat*! All cattle are examined by veterinary surgeons, and marked with a brand, which is known to the police, who have power to act when the control of the Customs ceases. The following statistics may interest the Farmers' Club. The two first returns have been published; perhaps they may not have been seen by those they are intended for. The last return is arrived at by taking in detail rather extensive accounts. I have, therefore, only given you the number of oxen, which I think will be of most consequence—to include sheep, lambs, and swine would entail a vast amount of time and labour. The remarks I have made, referring as they do to London—to which port a great many more cattle are sent than the rest of the United Kingdom put together—must, I think, carry considerable weight:

Imported into the United Kingdom during				
Aug., Sept., and Oct.			October (alone).	
Oxen	65,187	.....	25,265	
Calves	9,409	.....	2,909	
Sheep	168,623	.....	60,433	
Lambs	3,020	.....	1,728	
Swine	32,853	.....	10,955	
Oxen (including cows and calves) imported into the following ports during August, September, and October:				
Falmouth ... ..	...	...	...	1,526
Grimsby ... ..	...	...	...	nil
Hartlepool ... ..	...	...	...	1,055
Harwich ... ..	...	...	...	nil
Hull ... ..	...	...	...	6,001
Newcastle ... ..	...	...	...	1,762
Plymouth ... ..	...	...	...	2,007
Portsmouth ... ..	...	...	...	2,120
Southampton ... ..	...	...	...	3,704
Liverpool ... ..	...	...	...	5,251
London ... ..	...	...	...	44,859
				68,285

Return No. 1 for the United Kingdom 74,596
The above ports 68,285

For ports not stated above ... 6,311
Return No. 1 for the United Kingdom ... 74,596
London 44,859
United Kingdom, except London 29,737

Mr. M. G. BENSON, the chairman, said that some of his cattle had taken the foot-and-mouth disease from some cattle on adjoining land, which was in the occupation of a jobber. The man affirmed that there was no diseased stock when they arrived, and that he gave precautions to his (Mr. Benson's) cowman to keep his stock away, as the stock introduced had come from an infected place. There was no doubt whatever that his (Mr. Benson's) animals caught it in that way, but the singular part of the affair was that Mr. Lever's cattle, on land adjoining, intermixed with the others, and yet that gentleman had not one attacked. His (Mr. Benson's) cattle must have caught it over a gate, but the others, although intermixed, did not take it at all. He thought it rather remarkable that, during the cattle plague, South Shropshire should have been so free from it, as compared with the North. The most infected parts were those on the other side of the river, and he thought the river, forming as it did a boundary, had a good deal to do with it. Animals were not allowed to cross the bridges from one part to the other, and it was hardly likely that any swam the river. He believed they could have pleuro without any contagion whatever. It was nothing more than inflammation of the lungs, and might be caused by ordinary atmospheric influences. He could not go so far as Mr. Davies, who said that the importation of foreign stock had raised the price of beef by 7 per cent. The real question was, could farmers feed more than they did at present? He should doubt that very much. He thought that every farmer, supposing him, of course, to have the necessary capital, stocked his farm properly, and got as much cattle upon his farm as he could keep, and if he got more than he could keep the stock would only become deteriorated. He thought the letter read by Mr.

Burton, evidently from a gentleman who had the means of judging for himself, showed that every means that could be devised were taken by the Government to prevent the introduction of disease, and that being so, he did not see what more they could desire in that respect.

Mr. KEARY, in reply, said that the Club was much indebted to Mr. Burton for the valuable information he had been the means of procuring them in the letter he had read, and he (Mr. Keary) hoped the same stringent means would be adopted to prevent the spread of disease in this country, which it appeared were adopted to prevent its introduction from abroad. Jobbers were a very useful body of men—

The CHAIRMAN: Rather unscrupulous at times, though.

Mr. KEARY: They were, perhaps, at times rather unscrupulous, and were certainly not so careful as they should be, and so were often the cause of much mischief. He thought the present Government were taking all the precautions they could call upon them to do, and he did not think, after hearing Mr. Burton's announcement, that they were in a position to call upon the Government to do anything further as to foreign stock. He thought, however, something was needed at home, in the rural districts especially. He repudiated the idea of employing policemen as inspectors, urging that they should have men more experienced in the detection and identification of disease. He disagreed with Mr. Davies as to the rise in the price of beef being caused by the introduction of foreign stock. How, he would ask, had the population of this country increased of late? And besides that, people were now in a position to eat meat, who years ago could not, in consequence of the lowness of wages, afford it.

The meeting terminated with the usual vote to the chairman

THE SHROPSHIRE CHAMBER OF AGRICULTURE.

The ordinary monthly meeting of the committee of the Shropshire Chamber of Agriculture was held at the rooms of the Chamber in Shrewsbury, Mr. Bowen Jones, vice-president in the chair.

The CHAIRMAN stated that the first business of the meeting was to decide what steps should be taken in Shropshire, by the formation of a local committee or otherwise, to assist the Local Taxation Committee appointed by the Central Chamber. The committee had been appointed by the Central Chamber two years ago, and of it the Rev. Mr. Pigott, of Newport, and Mr. Jasper More were members. It had been the means of doing much good, but its efforts were curtailed a good deal by the want of funds. The secretary of the committee had written a treatise upon Local Taxation, which in his (Mr. Jones's) opinion was unanswerable, and which was well worth the perusal of everyone interested in the question. That committee had no doubt done much good, but they seemed to think that still more might be effected if the different Chambers were to appoint local committees to assist them. There was no doubt that the towns needed "educating" on that question. The borough members at present took no interest in it, whereas the county members were being stirred up very generally. If the boroughs were shown that their interests were concerned as well as the counties', they would then get the assistance of the boroughs. He saw one or two county magistrates present, and he should like to know what had been done at the county sessions on Monday. If no steps had been taken he thought they should solicit the court to move in the matter. They might, too, get at the different Boards of Guardians a little better than they did at present. They did not enter into that question as they should do; with the exception of the Wellington Board, no other Board in the county had petitioned Government upon the question.

Mr. STANLEY LEIGHTON said a petition had been agreed to at the Court, on Monday, and would be presented to Parliament. The Court only spoke as to the county rate, and they held that Government ought to give more support to the county than it did at present, and that the area of rating ought to be extended to woods and metallic mines, which were at present free from the rate. Their object was to create an opinion among the public, and if they did that, it would soon

find an expression in Parliament. He agreed with the chairman, that they must not trust to the county members alone—they must try to bring the borough members to see that they were alike affected by the question.

Mr. R. JASPER MORE said what the central committee wanted chiefly was money.

The CHAIRMAN said the funds of the local Chamber were in a satisfactory state, but he saw no reason why the large owners of property should not have the opportunity of contributing as well. It had been done in other places.

A local committee was formed to co-operate with the central committee.

The CHAIRMAN read a letter from Mr. Howard, M.P., showing the condition of the French agriculturists in consequence of war. The Chairman added that there was no doubt the French agriculturists were suffering to a very great extent, everything being destroyed by the advancing Prussian armies. He had very little doubt that if assistance was not sent over soon the utmost desolation would ensue, and he suggested that the public be solicited for subscriptions both in money and in seed corn.

Mr. LEIGHTON pointed out that England was neutral in the present war, and our sympathies, therefore, ought to hang equally between the two. He thought they should consider this before proceeding to help either nation alone.

The CHAIRMAN said he should have been prepared to help Prussia, in precisely the same way, if it had been invaded instead of France.

The Rev. Mr. PIGOTT pointed out that agriculture in Germany proceeded much as before the war; at any rate it was not injured to the same extent as in France, and there was no need to aid Prussia.

The CHAIRMAN stated that in distributing the corn sent care should be taken that it was used as seed, and not as food for the contending armies.

It was agreed that the committee receive subscriptions on behalf of a fund to be raised for the purpose named.

A petition to Parliament embodying the views of the Chamber in regard to Local Taxation was agreed to.

A petition in favour of County Financial Boards was also agreed to.

TENANT-RIGHT.

At a general meeting of the Banbury District Chamber of Agriculture, the Rev. C. W. Holbech in the chair,

Mr. DUN reported that he had attended the meeting of the Central Chamber on the 7th of December, and the business was principally of a technical character, a good deal of discussion taking place with regard to its constitution, an opinion prevailing that the Chamber ought to be purely a representative chamber, and that the knowledge acquired throughout the country should be focused, as it were, in Salisbury Square. Complaints were made that the provincial Chambers were not represented sufficiently at the Central Chamber.

Mr. COTHER said: The last time I addressed you on the subject we are met this day to consider, there was only time for very cursorily considering it, but I have now an amount of information which I trust may lead us to just and right conclusions, no less to the benefit of the landed-proprietor and occupier, than the labourer, who must be the first to benefit by the universal adoption of the reasonable and just principle of giving security to tenants for the use of oilcake on their farms in such proportion as may be considered beneficial to the incoming tenant. In the first place, the foreign labourer will be benefited by the increased demand for linseed; the home labourer, in like manner, by the increased demand for the cake by the loading, unloading, breaking, and serving out, shepherding, producing and stocking of corn, thatching, thrashing and winnowing, and all other labour required in consequence of increased production; the tenant, by security given whereby much larger crops of roots and grain may be raised; and the landlord ultimately by the increased value of his land, and the consumers of meat benefited by its larger productions, so that much land not now well farmed "may bud and blossom as the rose." To induce this principle in detail, I would propose that the cost of cake for the three last consecutive years of a tenant's holding (the amount being equal in each year) be divided by six, the value of the said sixth part to be paid by the landlord or the incoming tenant; this to be ascertained by the valuers appointed in case of acts of husbandry, the outgoing tenant producing vouchers for confirming the same. In case of the death of a tenant, or his not holding a farm for three years, the allowance to be decided by the valuers as above, or their umpire, I have now to propose the following motion: "This Chamber respectfully recommends all landed-proprietors to adopt the principal set forth as above as the greatest encouragement to high farming generally, and consequently to the increased value of land—not overlooking various other improvements, but leaving those to be provided for by special agreement between landlord and tenant."

The CHAIRMAN: Does the question about oilcake form one of the leading principles of Lincolnshire Tenant-Right?

Mr. COTHER: There are other covenants, but this is the most important. It is a good principle, and injures nobody. I am indebted to Mr. Torr, who was one of the judges at the Royal show, and who has given me a great deal of information on the subject.

Mr. DUN asked Mr. Cother if he knew the agreement about artificial manure?

Mr. COTHER read an extract from a lease which had been sent to him by Mr. Torr, from which it appeared that the tenant received the whole he expended on manures if no benefit had been received; if he left in a year, half of their cost; two years, a fourth; and three, nothing. He had only dealt with the cake, and he had been informed by a most experienced man the cake question was the most important thing in the system.

Mr. SIMMONS said that in dealing with Tenant-Right they must take into consideration that a man must have a large amount of capital on entering a farm, in order to pay for the improvements that have been made for several years.

Mr. GREAVES said that men without money got farms by offering high rents for them, and if they did not succeed in them, there was always plenty for the landlord on the ground.

Mr. WESTOVER said that as long as there were such a number of people applying for farms, that would always be

the case. A man told him that farming was surely the best business in the world, there were so many applicants for farms. He (Mr. Westover) told him that he thought it arose from small farms being merged into large ones, from people making their sons farmers, and from commercial gentlemen taking farms for their amusement, and throwing out the yeoman. He was in favour of embracing lime as well as cake in the compensation for unexhausted improvements.

Mr. DAVIS did not think Mr. Cother went far enough, and he, too, thought lime should be embraced. Most land required lime, and they would get more benefit from the second cropping with lime than the first.

Mr. DUN said they were much obliged to Mr. Cother for bringing forward a subject of so much importance to the agricultural community generally, and the principles he enunciated must recommend themselves to all who had any experience whatever in regard to land. There was no doubt that land had not hitherto drawn nearly so much capital as could profitably be applied to it. No doubt both landlord and tenant required to lay out more in thorough drainage, making roads, and proper fences, &c., and also, perhaps to a still greater extent, tenants had been chary in laying out their money in the deep and thorough cultivation of their holdings. The tenants had not been to blame in not laying out their money on their farms, and they could not, in justice to themselves, lay out a large amount of capital when they had so slight and insecure a tenure of their farms. He was thoroughly satisfied that land, to be farmed highly, and as well as they wished it to be farmed, to yield the greatest amount of capital, to rise rapidly in its permanent value, and to yield the greatest advantage to the owner, must be held upon a somewhat different system than it had hitherto been in the greater part of England. There should be payment to the enterprising tenant for unexhausted improvements—for the capital he had spent in improving the land, and of which he did not get the advantage—and he thought they must adopt the system that prevailed in the northern part of the country, where the tenant secured a permanent interest in the land by getting a lease of it for at least fourteen years. He believed that the best resolution they could pass would be obtained by a combination of the two systems—by allowing the tenant to have a lease for a reasonable term of years, and also by giving him an interest in the outlay of his capital by repaying him for the capital which he left in the soil, and for which he had not been repaid himself. He did think, with all due deference to Mr. Cother, that they as men of business, and practical men, should look at the subject in its fullest bearing, and not merely in its relation to the question of linseed cake. He therefore begged to propose the following as an amendment to Mr. Cother's motion: "That in order to encourage the application of capital to agriculture, it is desirable, 1st, That greater security and permanence be given to the occupiers of land; 2nd, That outgoing tenant be repaid by the landlord or incoming tenant for the unexhausted improvements made by his capital, and also for a proportion of the cake, corn, and manure recently purchased for and expended on the farm." He thought that two such systems would draw a much larger amount of capital to the land, and also benefit the labouring population of this country. One of the great questions of the day, was, What were they to do with the increasing pauperism? If the land was held upon a more certain tenure than at present, that pauperism could be very greatly diminished. There was no doubt whatever, as Mr. Cother had said, that wherever men were farming up to the mark, wherever they met with thorough good cultivation, and where a large quantity of stock was kept, there was certain to be a large number of hands employed. At present, owing to the light profits that had of late been derived from agriculture, farmers had been anxious to do with the smallest number of hands they could. By adopting leases with compensation for unexhausted improvements, they would have smiling Plenty over a vast area of this country, and they would have far more and full employment at all seasons of the year for the industrial poor.

Mr. COTHER: Mr. Dun is quite beside the question.

Mr. DUN (handing Mr. Cother the circular calling the meeting). The question is printed, "Lincolnshire Tenant-Right."

Mr. COTHER.—Lincolnshire Tenant-Right does embrace leases. Mr. Torr says that he would not have a lease. I consider there are many objections to leases, and I don't believe in binding men together for fourteen years. A man might see something better elsewhere, but he could not move, being bound by a lease. I consider that the proposal to allow for cake is one of the utmost importance.

The CHAIRMAN, looking at it from a landlord's point of

view, did not think much of the lease system. He might give a man a lease for fourteen years, and find afterwards that he was a very bad farmer, that there was no prospect of his improving, and he would not be able to get rid of him until the expiration of the lease.

Mr. GARRETT did not think that Mr. Cother went far enough.

Mr. DAVIS seconded Mr. Dun's amendment, and it was carried by six to four, upon which Mr. Cother said that the long and the short of it was that they were not willing to take any compensation.

A vote of thanks was given to Mr. Cother for his paper.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At a monthly meeting of the directors held on Wednesday in their chambers, George IV. Bridge, Edinburgh, the following letters were read:

Bonnington, Ratho, Dec. 26, 1870.

Dear Sir,—You kindly mentioned you would submit any remarks I had to make on Dr. Anderson's report to the directors. Allow me to do so now. 1st. From the enclosed letter from a mercantile firm in Germany, who undertook to make inquiry for me, it appears the Doctor's information is not quite correct when he says all scientific work has been put a stop to by the war. The various institutions are in working order in Saxony and Bavaria. 2nd. The statement made by the Doctor that there are twenty different establishments in Germany, supported chiefly by private funds, for the purpose of determining fundamental laws of agriculture and applying these to practice, is fitted to surprise agriculturists in this country, where no such institution exists. After Boussingault's private establishment at Beohebrunn, in Alsace, the Agricultural Chemistry Association of Scotland was the first, I believe, to be formed of the class. That institution was started by a practical farmer, the late Mr. Finnie, Swanston, aided by Mr. Oliver, Lochend; Mr. Milne Home and Mr. Coventry assisting. Its objects "were to improve agriculture by the application of chemistry, vegetable physiology, and geology, enlarge present knowledge by experiments in the field and laboratory;" "to diffuse such knowledge," and to analyse manures and feeding stuffs, soils, &c.; apparently such work as is being done by these German institutions. When the five years expired for which the association was formed, it was taken over by the Highland and Agricultural Society, "for the purpose of encouraging and directing the application of science to agriculture." The effects which followed the formation of the association was a rapid increase in the demand for artificial manures, the making of which—the happy thought of Liebig of dissolving bones with sulphuric acid—rendered possible a correct system. Much was done to check quackery and knavery in the manure and feeding-stuff trade. It is generally allowed that the operation of the chemical department of the society has not done much "to enlarge our knowledge of scientific agriculture." Dr. Anderson says little has come of all his attempts at the utilisation of refuse matters, and he holds up no great prospects of being able to achieve much more. He, however, gives the farmer the assurance that "the manufacturer will bring under his notice every sort of refuse which can be useful to him." The Doctor thus appears to admit that the manufacturer is a much greater benefactor to the farmer than the chemist, and can succeed when the chemist fails. If such, then, has been the result of the working of the chemical department, some one may be apt to ask the question, What is the use of that department, as chemical analyses can be had as correctly and on the same terms elsewhere? Besides, the fact that the laboratory is in Glasgow, and the whole east of Scotland deprived of ready access to it, has caused other means of obtaining scientific information to be resorted to, as in the West Lothian Chemistry Association and others. The expression of opinion in the report that matters are in a satisfactory position seems to me and others to strengthen the call for further information; and we daily see that the Doctor is not correct when he says all waste substances are utilised, and that the manufacturer will take care of them. For instance, from where I write I can overlook a district of country some

eight miles by six, where much paraffin is made, the ammonia water from which was allowed to go to waste. Many experiments were tried by Mr. M'Lagan of Pumpherstone, M.P., and other agriculturists to apply it to agriculture; and some progress has been made in converting it into sulphate of ammonia, if not directly into a manure; and from one large work about £20,000 sterling is sold annually. Nearly as much is made in other works. Yet it is calculated that ammonia and other matters which would return £30,000 if utilised are allowed to pollute the streams. I am not aware that Dr. Anderson has ever turned his attention to the utilising of this great waste. Within a few miles of this, there are several mills which manufacture oatmeal largely for the Glasgow market. The oaten shavings until lately were burnt as unfit for manure or food. These hard dried husks are now carefully collected, and sent to the railway stations, a few shillings a ton being got for them; whereas at their destination it appears that they are made to assume the form of organic matter in various compositions, which sell at high prices to the farmer, and chemists, from want of sufficient skill, are unable to trace them. The boon the manufacturer supplies in this case is not quite apparent. I shall not give other instances from a distance. But the fact is undeniable that were greater scientific skill to exist or be available, not only would agriculturists benefit, but they would be able in their management and application of manures and feeding-stuffs to save money. A thorough reorganisation of the chemical department of the society is urgently required; and my only plea for troubling your directors is a feeling that while, as practical farmers, we have few who excel us, we are not keeping up in science as applied to agriculture.—I am, &c.,

(Signed)

JAMES MELVIN.

F. N. Menzies, Esq.

Lauf, by Nurnberg, 5th Dec., 1870.

Dear Sir.—We are now in the position to reply fully to your note of information, having gathered the necessary particulars from authentic sources. Answer 1. The various Agricultural Chemistry Associations in Bavaria and Saxony are all in working order. Answer 2. The schools and laboratories are: in Bavaria the Agricultural Central School at Weiheursephan. Director—Carl Gustav Wenz. Laboratories: in Saxony—(a) Landwirshechaftliche Verouchr Station, at Pommeritz, near Buntzen; (b) Landwirshechaftliche Verouchr Station, at Moeckern, near Leipzig; (c) Agricultural Academy at Tharandz (of very high standing, and near Dresden, the first in importance in Germany). Directors—Mr. Schober, professor; and Professor Stockhardt. Professor Stockhardt is considered a high authority in agricultural matters. Answer 3. Guano manufacturers—In Bavaria: Fabrik Henfeld, between Augsburg and Munich; in Saxony: Pommeer and Co., at Plagwitz, near Leipzig; Albert and Hortel, at Dresden; Gall and Co., at Freiburg. The manures are not manufactured according to the directions of Government chemists; but the manufactory at Henfeld gets their produce tested by chemists of high standing, and Professor Liebig, of Munich, has a share in it. Answer 4. Application to inspect the above-named establishments should be made—In Saxony: Dr. Reining, General Secretair and Geheinic Rath, at Dresden; in Bavaria: Director Wenz, at Wesenstephan. Answer 5. The best time for a deputation would be in summer. We may mention for your guidance that Saxony will be the most important part of Germany for you to visit, for it is the best cultivated, and much progress has been made. There is also an Agricultural

School and Laboratory at Hohenheim, in Wurtemberg. We shall be happy to get any further information you may desire; and trusting that the foregoing will be what you wanted, We are, &c., &c.,

(Signed) J. F. BARTH AND WEIGHMANN.
James Melvin, Es., Bonnington, Ratho.

In consequence of approved reports having been received various subjects on the list for 1870 were discontinued. The following new premiums for reports were added: On the agriculture of Orkney; on the insects which prey upon agricultural plants and the diseases occasioned by them, with reference to finger-and-toe in turnips, tulip root in oats, smut in corn crops, failure of the wheat plant in spring, &c.; on the waste chemical products and new combination of substances which might be made available for agricultural purposes; on experiments with potatoes grown with potash manure; on the symptoms, causes, preventive and remedial treatment of abortion and premature birth in mares, cows, and ewes; on the natural history of the sheep tick; on the effects of dry season (1870) on trees and shrubs; on the *Wellingtonia gigantea*; on the stem and branch pruning of conifers; on the more extended cultivation in Scotland of charcoal-producing plants for gunpowder or commercial purposes; on the woods, forests, and forestry in the county of Perth; on the planting of peat bog.

Mr. F. N. MENZIES reported having attended a meeting at Kelso on the 16th of December, regarding the show in 1872, when the classes of stock as named by the directors had been approved of, subject to the following additions:

That in the fat stock class there should be two sections for Shorthorn oxen calved after 1st January, 1869, and after 1st January, 1870, and that the polled oxen should be included in the sections of any other pure or cross breed.

That there should be two classes of Leicester sheep—viz., English and Border—and that the same number of prizes should be given in the one class as in the other.

That the extra sheep sections (which the directors had remitted for the meeting to name) should be for Cheviot wethers not above three-shear, blackfaced wethers not above three-shear, half-bred hoggs not above one-shear, and greyfaced hoggs not above one-shear.

That ewes in the Cheviot and blackfaced breeds should be shown without lambs, for three reasons: Many of the lambs did not belong to the mothers shown, but were nursed by the bottle; the feeding they got was detrimental to breeding purposes, and showing on other occasions; because the practice was followed out in no other class of ewe stock.

That there should be more encouragement given to implement makers, and that there should be a thorough trial of implements previous to the show.

The board approved of the various suggestions with the exception of the last, which they considered was sufficiently met by Nos. 50 and 51 of the general regulations, namely—

50. The Inspecting Committee will award such silver medals as they may deem proper for general collections, new inventions, or radical improvements, where a trial is not practicable.

51. When an implement or machine is supposed to embrace a new invention, or radical improvement, the nature of such must be specified in the entry, to enable the directors to order an inspection with a view to a trial. Such trial, when recommended by the Inspecting Committee, will be instituted in a convenient locality, and at a season of the year suitable for the operation of the implement or machine, which, when thoroughly tested, will be entitled to such a premium as the directors may see fit to award, on the report of the judges employed by them.

THE HOP PICKER.

The annual meeting of the Society for the Employment and Improved Lodging of the Hop-picker, was held at Maidstone, the president, Earl Romney, in the chair.

The Rev. J. Y. STRATTON, the Secretary, read the fourth annual report, as follows:

In presenting their report, the committee of management of the Society have to state that the accounts for 1869 were audited and found correct. On the order of the committee, they were printed and circulated among the members. A balance in favour of the Society of £1 11d. was carried to account for the present year. This is a smaller sum than that which was in hand at the commencement of 1869. The cost of the last report, including in its appendix the report of the Royal Commission on the employment of children, young persons, and women in agriculture, relating to the immigrant hop-pickers of Kent, caused an unusual addition to the expenses of the Society, and will account for the reduction in the balance. The accounts for the present year will, it is calculated, show that as in previous years, the funds of the Society are equal to the demands likely to be made upon them. The present number of members is 95, being two less than at the date of the last report. Among those members who have been removed by the hand of death, your committee have to record the loss of Mr. Charles Wykeham-Martin, M.P., who aided in the formation of the Society, and, as a vice-president, took an interest in its progress. The Society will also regret that the distinguished name of Charles Dickens will no more appear on the list of members. The loss of Mr. Alexander Randall, of Maidstone, who joined the Society on its formation, is also to be noticed with regret. The report of the Royal Commission above-mentioned on the state of the lodgings and management of the hop-pickers of Kent, has been extensively circulated by the Society. It has not, however, met with the attention to which it is on every account entitled. Your committee express their belief that the friends of the reform in which the Society is engaged would find in the evils therein recorded, as well as the suggestions for their remedy, matter, by the proper use of which employers who have hitherto been negligent about the lodging and accommodation of their hop-pickers may, without the intervention of the law, be led

to make good provision for them. Your committee appeal to the influence on public opinion exercised by the press, to aid in the effort to induce owners and occupiers of hop lands to make alterations in the lodgings by which the morality and decency of their inmates may at least be encouraged. That great improvements in this respect have already been made is matter for congratulation, but much remains to be done. The paper of "Recommendations relating to the Lodgings," drawn up by a committee of the Society in 1867, may be referred to with advantage by persons who are about to build or improve the "hopper-house." The evil of overcrowding should not, however, be lost sight of by those whose lodgings are good. [Great complaints were made by the occupants of a hopper-house in Watlington on this point. They were crowded 25 in each room without reference to age or sex.] While the influence brought to bear by the Society on improvements in the lodgings has been most salutary, your committee has devoted continued attention to the agencies by which hop-pickers may be engaged. The difficulty pointed out in the commencement of the Society's labours in obtaining the hearty and general co-operation of the hop planters in the use of the agencies still remains; though partly from improvements in the management, and partly from the desire of some of the growers to support an effort which aims at establishing system and due control in lieu of disorder, the indifference to the Society's agencies is less than it was. The number of hop-pickers supplied this year compares favourably with that of any former year, being 580, or 170 more than last year. The increase, though the whole number is comparatively small, is progressive. No complaint whatever has been made of the conduct and efficiency of the Society's hop-pickers. Your committee invite the attention of hop planters to the statement that engagements made by means of the Society are not allowed to displace orderly and efficient hop-pickers, who in former years have found employment through the objectionable agency of the binmen. On the contrary, they are always retained for the same employer, while persons of unsatisfactory conduct are dismissed by the agent in charge. The Society endeavours to introduce into common use a system which shall secure to the grower, at a small cost (3d. per hop-picker), and

at no cost to the work people, efficient hop-pickers in any number required, with due regard to their comfort and decent provision. By means of the Society's system, the trouble of the hop-grower in securing pickers is greatly diminished; the hardships inflicted on persons who leave their homes in search of work before any is to be had are removed, inasmuch as they remain at home till the agent informs them of the time when and the place where to go, and also sees them off by train in all cases where they can afford to pay the fare. A powerful check upon vagrancy (by which the unions and charitable people will be gainers), will be secured as soon as the agency becomes the common mode of engaging hop-pickers. The co-operation of the hop-growers is earnestly sought on behalf of a system which will sooner or later benefit hop-growers, hop-pickers, and the resident population of Kent. The agents of the Society have again rendered good service at the railway stations. At Watlingbury, where the bulk of the Society's hop-pickers come and go, the assistance of the agent was especially valuable. Railway tickets were purchased by him, and sold at the pay-table of the employers when the hop-pickers came to receive their money, by which means much inconvenience at the station was avoided. The cheap trains for hop-pickers on the South-Eastern Railway from London, commenced running many days before the hops were ready. In consequence, numbers of persons in London, who look on the Company's announcements of hop-pickers trains as the signal to leave their homes, started on foot and begged their way into the district; these, as well as the earlier travellers by rail, "remained in a half-starving and vagrant condition, sleeping by nights in the casual wards, and in the day roaming about in search of food and employment." With this exception the South-Eastern Railway Company have been fortunate in their arrangements for the people, and no cause of complaint has been given from the want of a sufficient number of trains to convey them home with due expedition. The following return has been kindly forwarded to your Committee by the South-Eastern Railway Company:

Hop-pickers from London by Special Trains.	Returned by ditto.
1865 ... 11,090	12,000
1866 ... 11,000	13,000
1867 ... 8,777	10,694
1868 ... 14,476	17,288
1869 ... 12,522	13,458
1870 ... 15,945	16,915

No account is taken of hop-pickers who travel by ordinary trains.

Total acreage returned as under hops, in each of the years 1868, 1869, and 1870, to the board of trade:—

	1868. Acres.	1869. Acres.	1870. Acres.
Hants	2,517	2,356	2,530
Hereford	5,564	5,536	5,798
Kent	41,087	38,606	37,490
Surrey	2,208	2,209	2,152
Sussex	10,107	9,613	9,445
Worcester	2,430	2,522	2,606
Other districts	542	561	559
Total for England ...	64,455	61,403	60,580
Wales	33	6	14
Total	64,488	61,409	60,594

The land under hops, according to the Excise returns in 1861, was 49,941 acres.

The following were appointed agents of the Society for the present year:

Maidstone	Mr. Raggett, Chief Agent.
Lambeth	Mr. Knight.
Bermondsey	Mr. Leach.
Golden Lane, E.C.	Mr. Hutchinson.
Westminster	Mr. Lucas.
Seven Dials	Mr. Gyton.
Woolwich	Mr. Leach.
Deptford	Mr. Thos. Tassell.

The statement of accounts showed an expenditure of £54 4s. 1d., and a balance of £1 11d., in the hands of the treasurer.

The Rev. J. Y. STRATTON, the secretary, said he had generally contented himself with reading the report to the meeting, but he asked permission on the present occasion to say a few words about the Society. He considered that great injustice had been done the Society by overlooking the moral force it had exerted in inducing employers to provide improved accommodation to the pickers. If the Society had never attempted to establish its agency, it had earned all the money which had been subscribed towards it, by the influence it had exerted upon the hop-planters in reference to these dwellings. Lord Derby had expressed an opinion that the Society might possibly succeed in "registering" hop-pickers, but would not exert much influence in the way he had described; but he could state with confidence that he was decidedly wrong in coming to that conclusion. He contended that the Society was fairly entitled to the cordial support of the hop-planters, and although it was sometimes difficult to get a principle—however true it might be—recognized, yet he believed the time would come when this "agency" principle would make its way into common use. It might be true to a certain extent that the hop-planters could manage their agencies for themselves, but for the public good he would urge them to co-operate with the Society. The Society was now in a position to manage with ease, by means of its agencies, over 5,000 hop-pickers, and without wishing to displace any pickers he would ask planters generally to employ their hands through the Society's agencies, and by that means secure a check which was often wanted in the best managed gardens, in being able to get rid of noisy and turbulent people, and substituting in their place those over whom some control would be exercised.

The CHAIRMAN said he had purposely spoken rather disparagingly of the Society, in order to elicit what could be urged to the contrary. It was a waste of time to support an institution of this kind unless it was really and thoroughly carrying out the objects for which it had been started. The progress it had made was less than he had hoped for five years ago, and there was no doubt but that, so far as the hop growers were concerned, it had not made much way. He hoped to see a change in this respect soon, but he quite endorsed the opinion expressed by the secretary that the Society had exercised a moral influence which was overlooked; in fact, he quite believed that a great influence—unknown to most people—had been operating in consequence of the way in which the subject had been agitated.

The report was then adopted unanimously.

Mr. EDWARD GOODWIN proposed the following gentlemen as officers of the Society for the ensuing year: President, the Earl of Romney; Vice-presidents, the Lord-Lieutenant of Kent, Viscount Sydney, G.C.B., the Earl Stanhope, the Earl of Darnley, the Earl of Abergavenny, Mr. James Whatman, M.P., Major-General Fletcher, Mr. Henry Bannerman, Mr. J. Wingfield, Stratford; Treasurer, Mr. R. Mercer; Secretary, Rev. J. Y. Stratton, Ditton Rectory, Maidstone. The Society had done a great deal towards the improvement of hop-houses, but there yet remained much to be done in this direction. If only £100 was expended beyond what had already been expended on farms of fifty acres or so it was impossible to conceive how much it would conduce to the greater comfort of the people. With regard to "cook-houses" he complained that there was a great deficiency; "ovens" ought to be provided on every farm. On his farm there had been an oven for over forty years, and he described how much it was appreciated by the pickers whom he employed.

Mr. ARTHUR FREMLIN, seconded the resolution. He regretted that the hop planters failed to co-operate with the Society in reducing the evil which all must acknowledge now existed, an evil from which all suffered—the thousands who came annually to this locality, and by having, perhaps, to wait a fortnight or so before finding employment, were reduced to a state of starvation and distress which might easily be avoided if the agencies of this Society were made use of. In talking to his hop planting friends they generally wished to know why they should depart from the old system which had been in operation so long. His answer was because it had worked badly. The Society wished to see a better state of things established, and he described how much more convenient it would be for the planter to procure the pickers by the agency of this Society than to engage them on his own responsibility.

The resolution having been carried, on the motion of Mr. T. H. PACK, seconded by the Rev. J. Y. STRATTON, the following were appointed to act with the officers as a committee of management: C. G. Whittaker, J.P., T. R. Cutbush, Thos. White, S. Maitland, Thos. Balston, J. J. Ellis, J.P., John Whitehead, J.P., Chas. Whitehead, J.P., W. Gilbert, T. D. Shafto, R. Alexander, C.B., J.P., A. Peppercorne, H.

Peppercorne, J. H. Hodeoll, E. T. Goodwin, R. Betts, W. A. Fremlin, A. White, and W. Hammond.

The CHAIRMAN, in acknowledging a vote of thanks, said it appeared to him that planters might easily avoid being considered unkind to the pickers if they gave them notice in 1871 that in the following year they would be engaged only through the agency of this Society.

ROMSEY LABOURERS' ENCOURAGEMENT ASSOCIATION.

The annual meeting for the distribution of the premiums to the competitors for the prizes under the auspices of this society was held in the Corn Exchange.

The Right Hon. W. F. COWPER-TEMPLE, who is president of the Association, said he had great pleasure in distributing the premiums that had been awarded, for he knew they had been given with the utmost fairness and discernment by the judges who had to decide. It was always pleasant to see a number of persons who had done well in their respective positions in life. Each of these premiums was an evidence of well-doing—a proof that the persons who received them had been careful to learn their duty, and had been faithful in the discharge of it. It was pleasant to see an example of right-doing proceeding from right feeling, whether on a large or small scale. It does not depend upon us (he continued) what position in life we should be placed in. It depends upon circumstances, upon the complications of society, the orderings of Divine Providence; but what does depend upon us is the way in which we act in the positions in which we are placed. Shakespeare has said, "All the world's a stage, and all the men and women merely players." When a play has to be acted the parts are distributed among the actors, and it is not of much consequence to an actor whether he has to play the part of a king or citizen, a general or a soldier, whether he wears tinsel and gold crowns or a simple buff jerkin; what is of importance to the actor and to the audience is the manner in which he plays his part. And so it is in this great theatre of the world. It is not of so much importance what position is allotted to us, whether it be one of wide power or small extent; but what is of importance—and of the utmost importance to each person—is whether they do their duty in that particular position in which they are placed or not. The well-being of society itself depends upon everybody doing well in the particular part of the social scale in which they happen to be placed. All of us here belong to the agricultural class—the class whose business it is to bring out of the soil that food which God fitted it to produce. The agricultural classes may be divided into three chief branches. First, the landlords, who prepare the land for cultivation, who divide it into farms and fields, who drain the land and build the farmhouses, stables, and cottages upon it, and their business is to see that the land is turned to good account for the general good of the nation. The second branch are the farmers, who have to provide the plant of the farm, the implements, machinery, wages, all the outlay that has to be made; they have the risk, and we hope sometimes they have the profit. The third class are the labourers; they plough, sow, hoe, dig, reap, and do everything in manual labour that is required for the production of the farm. About three weeks ago we had competitions in this town among the farmers as to which had done best in producing articles worthy of admiration. We had a very splendid show, and several gentlemen who are present to-day were successful in getting prizes. There was Mr. Hoddinott, who got the first prize for ten acres of swedes; then there was Mr. Withers, who got the next for a most admirable field of swedes; Mr. Swanton, Mr. Hunt, and I myself got a prize; and I am pleased to think that Broadlands Home Farm produced most beautiful pigs, which also got their prizes. Now to-day it is the turn of the labourers; they have been competing for prizes, and I am pleased to see so many people who, by the decision of the judges, have got the rewards which they well deserved. The first class of shepherds is in many respects the most important of the lot, for upon them depends much the health of the lambs and ewes—upon their good management, care, and constant attention. We have six or seven shepherds who

have been strongly recommended for good conduct, and special skill in the work which they have performed. In the class of teamsmen prizes have been given to three men who have deserved them by a considerable number of years' services. A great deal, we all know, must depend upon the care of the man who drives these animals. He has got not only to feed and water his horses, but to be kind and considerate in his treatment of them. A good carter is a man who tries to manage his horses by kindness, who understands what they are able to do, and who does not overdrive them, and he is especially one who, when he has to bait his horses at a public-house, does not bait himself to any extensive degree, but is moderate in the refreshment he is required to take. The other class is that of the ploughmen; these are they who require the most skill, and whose skill is the best tested. We have had a great number of ploughing matches lately; they have been well contested, and there have been furrows drawn in this neighbourhood as straight and even as any in the country. You must therefore think well of William Fielder, who is the champion of you all. The other class is for seedsmen and drillmen, and upon their work a great deal of the success of the farming depends. It is a matter of considerable skill, and I am glad to see there are so many who are worthy of the premiums. So also with the rickmen and thatchers. This is an employment not so well carried out as it used to be, and it requires all the attention that can be paid to accomplish it in the best way. Then there is the class for domestics. These have received at home a much greater reward than the association will be able to give them, for a servant who gives satisfaction to her employers has the reward not only of doing her duty, but of receiving the approbation, affection, and regard of those who employ her. With regard to the cottagers, we have the pleasure of seeing the mistresses as well as the misters, and I am sure these prizes are earned as much by the wife as by the husband. These have an ample reward in keeping their husbands at home, and making them contented with their lot. I should like to see a prize given to the wife who could make the best pudding or soup for her husband. We have a great many vegetables, but I do not think they are made the best use of. Then there is a prize for the gardeners, and I think again it is not necessary for me to dwell much upon the usefulness of the premium, because a well cultivated garden is the best reward that can be given in itself; and in many places they reckon the produce of only half a quarter of an acre is worth about £4 a year. Then there are the special class of prizes awarded to those who, from long service, have been able to bear a very good character, and there are several of these who deserve great credit for what they have done. Finally, we have those who have received the Bible, awarded by the present Bishop, as by his predecessor, and the prayer-book, and these will both be great proofs of good conduct to the owners. I do not think it necessary for me to give you advice, because your presence here to-day shows that you are each of you in your respective positions well behaved, honest, and respectable people, but there is one thing I hope the fathers and mothers will do, and that is to take care that their children go to school. Since this meeting last year, Parliament has been very busy, and it spent 20 days in the course of the session last year in providing that the education of the working classes of this country should be such as it ought to be. A law is passed now by which a seat in the schoolroom shall be at some time or other provided for each child. In this neighbourhood there

are plenty of good schools, and it is not the fault of the schools if the children are not educated, but it will be a hard thing if, while all the country is thinking about the education of the working classes the fathers and mothers, who are most interested, are the only people who do not care about it. I therefore hope all of you, so far as your influence extends, will do what you can, so that the poor children growing up will not be left without schooling. Next year I suppose we shall have Parliament considering the question of licensing public-houses, and trying to arrange that men may get their beer in the least inconvenient way, getting what they want without being exposed to the temptation of taking too much or being led into bad company. For my own part I am a great advocate for what are called working men's clubs—places where men can go of an evening if they have to leave their homes—of course it is better, if they can stay at home, to do so, for the proper place for a man is by his own fireside—but it would be a great advantage to young men, at

any rate, if they could always have a room well lighted and warmed, where they could go and sit of an evening with the newspapers, and be allowed to smoke a pipe without the necessity of drinking beer in the house. In a great many villages, as well as towns, in this country there are flourishing places of this sort, where working men go and sit in a room of which they are the masters. But the great thing depends upon the home being made comfortable, and attention to the husband, and I hope the wives present set a good example in this respect. On behalf of myself and the friends and subscribers of this society, I may say that we are pleased to see you here to-day. We hope many of you will be here to get premiums another year, but whether that will be the case or not we are exceedingly pleased to know that there are in this neighbourhood so large a number of persons who have done so well, and who have set such an example to their neighbours, friends, and acquaintances.

FARMERS' CLUBS AND CHAMBERS OF AGRICULTURE.

The activity of Farmers' Clubs seems to us the most striking feature of current agricultural history. There is nothing like it in any other profession. To be sure, no other professions number so many members on a given area of the country, but this is not true of them as congregated in our large towns. Where, however, will you find elsewhere that constant activity of the professional mutual improvement principle, whether in town or country, which one witnesses continually in agriculture? Every locality has its ploughing match and club, every market town its monthly meeting for discussion, every county its annual show, every province its great summer meeting, and each of the three kingdoms its national gathering and exhibition. And as if these were insufficient to satisfy the appetite for social co-operation, there has grown up another great organisation within the last two years, and Chambers of Agriculture have everywhere been constituted for the purpose of ascertaining the opinion of the agricultural body on public as well as professional questions, and of thereafter urging that opinion wherever it may best bear fruit. And certainly there is no lack of energy or ability in the management of all these institutions. What capital speeches are heard at their meetings! What excellent papers are read! Take them as reported week by week in the agricultural journals, and one is most favourably impressed by the knowledge and ability displayed; there is no better essay anywhere, not even in the pages of our annual volumes of Society Transactions, where everything is the result of laborious care and thought, that will excel the three speeches on that most important agricultural subject at this season of the year, and especially at this season of this year, the provision of winter food for stock, which are reported from the East Lothian Agricultural Society to-day, as having been spoken on the occasion of a recent meeting by three farmers of that county; and elsewhere in our pages the same truth is well illustrated this week. What a constant freshness, too, there seems to be in the proceedings of these societies; every year fresh lists of questions for discussion indicate the enormous extent of the agricultural field. The London Farmers' Club, although its surviving original members are now all grey-haired men, is still never at a loss for new subjects on which to direct its attention. Its last year's list is full of practical and scientific interest—grass-land management, sewage farming, land exhaustion, English Tenant-Right, local agricultural difficulties and successes, the principles by which the size of farms should be regulated, there is a touch here and there all over the field for agricultural discussion, and this year's list is just as good. If criticism were wanted anywhere it would, we think, apply rather to the topics on which the Chambers of Agriculture are engaged; they seem taken up with the tithe of mint and cummin, to the comparative neglect of the weightier matters of the law. All England of a certain class has been lately roused by them about the "average clause" in our fire insurance policies; a matter in theory insignificant, and in practice, seeing that agricultural insurances are at present barely profitable for the

companies, really altogether undeserving of attention, the whole thing affecting not more than a few farthings per acre. Or take the subject of weights and measures, and the introduction of the decimal system into agricultural dealings, of which a good deal is being made! And even the great question of the incidence of local rating which has of late almost monopolised the public efforts of so many distinguished men, acting through these Chambers, and of which we would not dispute the importance, is yet, with great diffidence be it spoken, not of such direct, immediate, or practical, influence or urgency as many another subject affecting the interest of the tenant-farmer, on which not a tithe of the attention is bestowed that it deserves. The miserable effects of game preservation to excess, the utter selfishness of *battues*, the need of better agricultural education, the necessity of absolute security for the tenant's capital: these do not excite nearly so much attention as topics of doubtful, or even fanciful importance. We may, indeed, almost take the three leading chairmen of our great institutions, Chambers, Clubs, Societies, as fairly representing their respective contributions to the work of agricultural progress; Lord Vernon interesting himself in agricultural education, in agricultural co-operation, in agricultural safety from imported dangers, and now in agricultural benevolence and philanthropy; Mr. James Howard, M.P., Chairman of the London Farmers' Club, bringing to bear an unusually wide acquaintance with the agriculture of other countries upon the improvement of the agriculture of his own, and now originating and directing the efforts of English agriculturists for the relief of those of France; and Colonel Tomline, M.P., Chairman of the Central Chamber of Agriculture, known to agriculturists and others chiefly by his whimsical dispute with the Master of the Mint! The Farmers' Clubs are, we believe, practically more useful than the Chambers. Touching the labourers through their ploughing matches, and other rivalries in technical skill, touching the landlords also, but dependent mainly on the mutual interest of the tenant-farmer class, which they deal with almost exclusively by the help of the farmers themselves, they are, we think, the more practical and better institution of the two.—*The Gardener's Chronicle*.

A CLERGYMAN TAMPERING WITH PARISH RETURNS.—The Rev. E. Smythies, rector of Hathern, was the defendant in an action in the Loughborough County Court, brought by Mr. Edward Lowe, a parishioner, for "making a false and malicious return, whereby plaintiff was prevented from filling the office of waywarden." Although the plaintiff laid the damages at £20, his pecuniary claim was nominal, his real object being to establish his right. The evidence showed that the defendant had tampered with the return of the voting for waywarden of the parish, and thereby deprived Mr. Lowe of that position to which he was fairly entitled. The jury found a verdict for plaintiff, but at the request of his solicitor the damages were reduced to one shilling.

PEAT, AND ITS PROFITABLE UTILISATION.

At the meeting of the Society of Arts, Mr. Robert Rawlinson in the chair, the following paper was read by Mr. ROBERT M. ALLOWAY, M.A.: The subject of the paper which I am permitted to offer to your notice this evening—the profitable utilisation of peat—is one which, about twenty years ago, attracted considerable interest, and became at that time a matter of speculation and inquiry in many places. If it had then had the good fortune to have fallen into more practical hands, it might not have remained up to this period so neglected as it is. Perhaps some gentlemen present may recollect that, about the year 1850, two members of the House of Commons brought forward there certain striking but rather extravagant statements of the supposed value that lay hid in peat; so great, indeed, that even 500 per cent. of profit was alleged to be not too much to be expected from its manufacture. Clever, but rather superficial letters, were about the same time published in the late Mr. Dickens's *Household Words*, and in *Chambers' Journal*, entitled "The Irish California," "The Devonshire Dorado," "The True Tom Tiddler's Land," "Peat Aggression," &c., which, being filled with flowery descriptions and too facile assertions of unascertained and unproved value, became soon suspected of being largely overdrawn, and caused peat and its utilisation to be looked on with indifference, if not with ridicule. When this was followed up by the establishment of two or three companies and the erection of large factories, which, being worked on false principles, were very soon abandoned, their failure was at once attributed to the impracticability of the peat itself, and not to the errors and mistakes of the projectors. This, of course, was unjust, and has placed much difficulty in my way, or that of anyone who may endeavour to treat it properly and profitably, as it is an arduous task to overcome a popular prejudice. Almost everyone is aware that large tracts of land in England and Scotland, besides immense portions of Ireland, are covered over with this despised but really singular and valuable substance. Peat has been admitted by geologists to be of a nature akin to coal—in fact, coal in its primary condition. Coal having once existed on the surface of the earth, and being then spongy and full of moisture, like peat (as the ferns, horsetails, &c., found imbedded in it proved) became buried hundreds of fathoms deep by the upheavings and subsidings of that period, and thus being subjected to great pressure, the soft material was consolidated by the superincumbent weight, as well as by the increased heat from the internal fires of the globe. Reflecting on this theory of the formation of the coal beds, it was not illogical for the first experimenters in peat to come to the too hasty conclusion that compression, joined with artificial drying (as if in imitation of nature) was the true method for treating it, in order to make it into an improved form, and which might be called peat-coal. One of the first to turn his talents and ample pecuniary resources to this matter was the father of the late Lord Willoughby d'Eresby. He invented a very powerful compressing machine, which he imagined would press all the water out of the peat, and leave it in a dry condition. His machine, however, was found in practice to press more of the moisture into the peat than out of it, and finally his plans were found to be quite erroneous, and his machinery useless. Notwithstanding his failure, several others followed him with more or less modification of his ideas, but all still working on the erroneous notion that compression was the only true method, nature herself (as was argued) pointing it out in the formation of the coal-beds. Nature, no doubt, is a grand guide in most matters, but need not be too slavishly followed, and above all must not be misunderstood. If nature is to be fully followed in this case, all the conditions of time and place which accompanied their formation should be present also, which, of course, is not the case, nor ever can be. Compression, therefore, by machinery upon the plans invented by Lord Willoughby d'Eresby, and carried on by all other experimenters in peat who followed him, up to the present day, having failed to produce anything really profitable or useful, a practical man will naturally turn his attention to something else, which I have endeavoured to do, and consider

that I have fully succeeded in effecting it. For the last twenty years I have taken an increasing interest in peat, being fully persuaded of its great importance, and the wealth, commercially and agriculturally, that lies hidden in it. I do not put an extravagant value on it, but may promise a fair and reasonable return for outlay, such as is generally looked for in similar undertakings. I had good facilities for experiment on a deep peat bog of my own in the Queen's County, and, having become acquainted with several of the gentlemen who were successively trying their own plans, on visiting their factories, I could not but become conscious of the cause of their failures, which I frequently suggested to them; but each and all were too strongly biassed by their own pre-conceived notions, and wedded to them, to alter their workings in any way to my views. My prophecies, however, were eventually proved true in all cases by the successive failures of all, and I thence came to the conclusion that, if a peat coal could not be made without expensive machinery and without artificial drying (thereby wasting other fuel), it could not be done to any profit or practical result. Something then drew my attention to the effects of air-drying, by simple atmospheric evaporation, making the sun and the wind act for me more effectually, rapidly, and economically in consolidating and drying the wet peat than ever had been done, or I am certain ever can be done, by any kind of machinery to compress with, and by hot flues, kilns, or blasts to dry with. I was aware that much might be effected by atmospheric evaporation, but was agreeably surprised to find it exceed my expectations. I then shortly brought my first ideas to a successful practical issue, the simplicity and rapidity as well as the economy of the process being very apparent, but yet only to be clearly understood on being seen at work. In consequence of the experiments and convictions above alluded to, I discarded, as impracticable and unprofitable, Lord Willoughby d'Eresby's hydraulic press, Cobbold's cylindrical churn, Glynn's steam rams, &c., with all kinds of hot-air blasts, heated tables, hot flues, kilns, &c., and simplified, step by step, an economical, common-sense, working plan, on plain, scientific principles, by which a dense, portable, wood-like (rather than coal-like) substance can be made at once from the soft, wet peat, consolidated without pressure, and dried in a few days (generally three or four) by atmospheric evaporation alone. In arriving at this desirable result, I always kept in mind the laws of capillary attraction and atmospheric evaporation, which govern so many matters of daily occurrence, small and great. My process consists of two plain principles, which I trust will not be despised for their simplicity, nor for their appearance of being only improvements on the old barbarous method of air-drying peat, which generally takes from three to four months. There is, in reality, almost nothing absolutely "new under the sun"; not even electricity, animal magnetism, or photography; but in all and each of those arts such improvements have been made in the first rude ideas or discoveries respecting them, that their present marvellous perfection has been accomplished by gradual improvements, and are acknowledged to be the same now as if they were absolutely new. It may be remarked that my process appears to be little more than the old hand-turf method improved, which of course I cannot altogether gainsay; but then if so the improvement is as great and as important, and carries as much difference as there exists between the amount of one to forty, or between three days, in point of drying, and three months. My manufacture of peat differs from the old method of making common hand turf, inasmuch as that the former is completed and dried in three days, the latter taking three months. One crop only of common turf can be raised from the same plot of ground in the season, whereas from thirty to forty crops of mine can be taken in the same period. By this I mean, that from say one acre of bog land but one single crop of common turf covering it all over can be raised and dried in the same year. Common "turf" or peat, in large sods, requires about three months to dry, and, consequently, there almost never occurs so fine a season as to allow of a second crop being properly saved. In

my process, the drying season lasts from five to six months, and as, on an average, two crops per week may be counted on, and there being more than twenty available weeks, between thirty and forty crops will be the return (which, in fact, has always been done at my model manufactory) from the same space of drying ground as could produce but one only of common turf. My peat-coal is as portable as pit-coal, whereas common turf is almost unportable, at least to any distance. In place of compressing machinery, with hot plates or flues, &c., for drying, I have enlisted the services of three grand natural wonder-workers, who do what I want without cost or payment—viz., in summer the sun and the wind, and in winter the rain. The rain lends great help to the mashing or pulping, which is my first process, and the sun and the wind dry my products in much less time than any artificial heat or wind machine ever did, and at a twentieth part of the cost. Thus, my first simple process is the mashing or breaking up the raw material. Peat, being sponge-like, requires to be disintegrated in order to destroy its cellular conformation. This, if not done, would leave it in its sponge-like condition, and prevent its proper consolidation. Those, therefore, who attempted to compress raw peat without first having mashed it, could not but fail, as it would continue always liable to reimbibe moisture, even if the compressing machinery had succeeded, which none ever did. As to the actual method of mashing that I employ, it is very simple, but very effective and economical. I constructed several machines myself for this purpose, all of which failed. I also attempted, ineffectually, to make use of existing machines, such as are employed for mortar, and for working up brick-clay, &c. The peat, from its peculiar nature, will not break up or mix readily in any of these. It is of a greasy and india-rubber like tenacity. Thus having failed to invent a mashing machine myself, or adapt any other known one, I struck out a simple mode of mashing by hand, the rapidity and effectiveness of which in pulping the raw peat must be seen to be fully appreciated. The peat-bank being opened in the way usual in common turf-cuttings, I place one man to dig it in large sods, which he throws over to six others who are opposite to him in line each armed with a wooden mallet, having a long handle. Each man strikes the sod thrown to him, and by a few blows completely mashes it up. The peat thus broken up is shovelled at once into an adjoining water-hole, from whence a similar bank of peat had been previously taken, and had become in consequence partly filled with water. There it remains melting into a thick pulp, until required for moulding. This mashed up peat absorbs all the water, and when the moulding commences in April, it is generally of about the proper consistency. It is then shovelled up on the adjoining bank by a man who stands on the pulp by the aid of large foot-boards, like snow-shoes. The man on the bank wheels it off in light, but peculiarly-constructed barrows, to the drying-tables, where he quickly discharges the wet peat on light boards like mortar-boards, from whence the moulders (women, girls, or boys) each take up as much of it as possible in their hands, give the portion so taken up two or three rapid slaps of the upper hand, and quickly place the "pat" on the table, each fresh "pat" just touching its neighbour. As the "pats" dry, which they do very rapidly, they shrink asunder, whereby the air passes more freely between them. This slap of the hand (particularly the soft hands of women and children) is the only method I have ever found effectual in driving the peat together, and putting it into a proper condition for having its moisture evaporated by the atmosphere, and its mashed up particles condensed by contraction. No machine has ever been produced to do this, nor in my opinion likely to be. Peat balls or bricks thrown from any kind of machine come out full of cracks, and tumble to pieces as they dry. My drying tables are constructed of a frame work of wood, each 36 feet long by four feet wide, and of a convenient height for the moulders to stand at, generally about 2 feet 6 inches. These tables are completely in the open air, and uncovered by any shed, which would only impede the drying. This framework is covered crosswise by common deal 4-feet plastering laths. I found that the dry, wooden lath absorbed the moisture and aided the drying better than wire-netting or any other material that I tried. These laths are nailed down to the framework at about half an inch asunder, so that the air can pass freely upwards or downwards. When the "pats" are dry, on the third or fourth day, one man or boy pushes them off the

tables very rapidly into a long wheel or hand barrow on the other side, by which they are conveyed into open lattice-work wooden sheds, which are built conveniently adjoining for storage, and very soon after are fit for sale and use. The moulding is carried on from about April to November. It is easy and healthful work. The peat is dried and the tables cleared generally on the fourth day after being moulded, and the peat-coal raked off and put in the store-houses, when the tables are immediately refilled with a fresh batch of wet "pats," and so on through the entire season, until the frosts and long nights come on at the end of October, when the moulding ceases, and the pulping for the next year's work commences. This healthful and profitable employment of young boys and girls, from ten to fifteen years of age, may be a matter pleasing and interesting to some; and if my peat process should be carried out on a large scale, it would prove to be an admirable industrial school, and afford excellent, healthy employment for children of that age, who generally are unequal to and unfit for the hard drudgery of common farm work or factory work, and for whom there is so little profitable, and at the same time wholesome work to do anywhere. The poor-houses, particularly in Ireland, are filled with sturdy but idle boys and girls, and I could suggest a plan by which the rates could be relieved from the cost of maintaining these poor little gaol-birds, and which would change them into different creatures in a short time. As to pit-coal, of course I do not mean to interfere in any way with its position in public estimation, nor to detract from its wonderful value and importance to England and the whole world, but I may say that the peat-coal which I offer to your notice might be preferred by many (if to be had in large quantities in the general market) as a domestic fuel, being much cleaner than pit-coal, and untainted by noxious gases, which are deleterious to health, and notoriously injurious to furniture, pictures, &c. The preliminary expenses required for establishing a full-sized working manufactory would not be a fiftieth (I may safely say) of those necessary for opening a coal pit, and also without future risks or chances to calculate or allow for. All here is open and visible work on the earth's surface. In fact, the first outlay on the tables, store-houses, &c., would be less than that required to stock a common farm, not to speak of mining or other expensive kinds of manufacture. The peat coal has been pronounced by competent authorities to be a first class fuel for generating steam. If it should ever become the general fuel of the large cities of England, then London, Edinburgh, and Dublin, &c., would, I am convinced, enjoy as pure atmospheres as Paris or Brussels. A great deal has been written and spoken about encouraging the industrial resources of Ireland. Here is one of the foremost and most peculiar of them, calling aloud to be utilised. Why may it not be? If my process be not what I state, let it go. But if, on strict investigation (which may be made and proven on the spot, where it can be seen at work), it shall be found not to be exaggerated in its value, I cannot understand why it should not be carried out, when millions are every day spent on matters that are comparatively unremunerative, and accompanied with risks and chances which frequently make losses the rule and profits the exception. My peat farming can also compare favourably with common tillage farming, or stock farming. The peat is not liable to be damaged by the thousand ills that land produce is heir to. It cannot be injured by blights, birds, vermin, or insects, like corn or green crops. It is proof against diseases and fluctuations in value, or accidents, like cattle, &c. Even the worst kind of wet summer weather will merely delay the drying for a day or two. The following outline of statistics may be at present sufficient to give a general idea of the process. I may promise that it is by the number of drying tables that my calculations are made as to the size of a manufactory. A full-sized one should consist of 10,000 tables, each 36 feet long by four feet wide, constructed simply of substantial wood frame-work. These 10,000 tables would turn off in the season (say from March or April to November) about 50,000 tons of peat coal (about five tons per annum on average being made from each table). This, if sold at only 10s. per ton (a very low rate) would give a profit of 20 per cent. This full-sized manufactory would cost in outlay on plant as near as possible £10,000, a comparative moderate sum, and would require about 100 acres of deep peat bog, which would contain sufficient raw material for forty to

fifty years' work. A brisk wind and unimpeded sunshine are nowhere to be found in greater perfection than on a large open bog, where almost every day in the year there is more or less breeze and motion of the air, which in my process is better than dull sunshine. Both sunshine and breeze together are of course perfection, and perform wonders in the way of drying the "pats." To sum up, the peculiar advantages of my process are—That the peat-coal can be made so inexpensively as to afford a certain and unremunerative profit in three or four days, and is capable of being sent anywhere over the world in bags like coal; that it is cleaner and freer from smuts and sulphurous smoke than coal; that 30 to 40 crops of it can be taken where only one crop of common turf can be produced in the same season; that it is cheaper, more portable, and better every way than common turf, and can compete with pit-coal anywhere but at the pits' mouth, or in places in close proximity to coal districts. In addition to the above, it will afford opportunity for that long-sought object, the profitable utilisation of the vast peat wastes of these countries, particularly in Ireland, where there are three millions of acres covered by peat, while it would afford remunerative and yet healthful employment for men, women, and above all, children, with handsome profits to the employer and capitalist. The moulders get so dexterous in a few days that they can earn much better wages, with less toil, difficulty, or hard work than they could at any other kind of farming employment. I may fairly call this a species of farm-work, to which it is much more similar than to any kind of factory work, as the term is generally understood. The feasibility of rapid hand-moulding was first suggested to my observation on seeing the boys at Woolwich Arsenal making copper caps for the army. A few years ago they were made there in large quantities altogether by hand-work, and it was surprising and interesting to remark the quickness and facility with which such small articles passed through the manipulation of those smart little boys. My peat "pats," being much larger, and not requiring such dexterity of finger, are consequently much easier to be formed into the proper shape and size. Most people would be well pleased at seeing the young girls and boys whom I have trained, healthfully and lightly employed at the moulding. The whole process being done by task or piece-work, the cost of labour can be ascertained to a fraction almost, while the expenses in any method hitherto attempted by machinery have been quite undefined, and a certain mystery attached to them, besides requiring more hands to attend to them than I require without machinery, in making an equal quantity of fuel. The first and only expenditure necessary is for putting up the drying apparatus—viz., the tables and the lattice-work wooden store sheds. The cost of erecting those may be calculated by the number of tables, at, as nearly as possible, 20s. for every table, which includes the cost of erecting the required number of shed for storing the peat-coal in, according as it becomes dry on the tables, every three or four days. Thus, £10,000 would be ample capital for the establishment of a full-sized manufactory, consisting of 10,000 tables, with all necessary adjuncts of sheds, implements, short roads, &c. These 10,000 tables would produce about 50,000 tons of peat-coal in each season. The money at first expended in labour would be available again in some places in a month or two, and could thus be turned over three or four times in the year, carrying, of course, each time a profit of at least 20 per cent. In localities where pit-coal is scarce and dear, the selling price at the works might be fairly increased to 12s. or 14s. per ton, which would add very considerably to the profit. The tables and store-sheds and store-houses, when once substantially erected, would last for many years (perhaps thirty to forty, or longer) with a mere trifle for occasional repairs to the laths and woodwork, on which there would be but little "wear-and-tear." The peat-coal is so condensed, and thereby so reduced in bulk that one cart or dray can carry as much value of fuel in it as ten similar conveyances could of common turf. The same proportion holds in carriage by railway, canal, or long sea, as well as in storage. It will also not occupy more space than coal in transit; a railway truck that conveys five tons of coal will also carry five tons of the peat coal. Railway companies generally decline to carry common "turf," or at least put a prohibitory freight upon it. I found the freight on peat to be 12s. per ton between Portarlinton Station (Queen's County) and Dublin, only about 40 statute miles. On remonstrating

with the board of directors of the Irish Great Southern and Western Railway on this point, and sending them a few bags of my peat-coal as a sample to their board-room, they were so pleased with its appearance, portability, and cleanliness, that they voluntarily agreed to carry it to Dublin for 8d. per ton less than pit-coal. If it were largely manufactured, I have no doubt but that all other railway companies would do the same, or make the freight even less, and give liberal encouragement to a product of such universal consumption. I have in my possession a considerable number of testimonials as to its value. I will, with your permission, read two or three of the shortest of these, and hope I am not abusing your patience; but I wish to allude to this matter in every possible point, and explain its difficulties and the way to overcome them. The first and shortest is from a gentleman of high position, the Chief Superintendent of the Government Valuation Office in Ireland. He writes: "I consider Mr. Alloway's peat excellent, and better than any other I have yet tried." Another is from one of our Irish judges, formerly well known in Parliament, which runs thus: "Thanks for the peat, which I have received and tried. It burns clearly, steadily, and slowly, without waste, and, as far as I can judge, leaves no unpleasant deposit of ashes or otherwise. I hope it will turn out a profitable speculation, not only on your account, but in the interests of the country." The third and last that I shall trouble you with is from Mr. David M'Dowall, the proprietor of large saw-mills and corn-mills, worked by powerful steam-engines, in Dublin. He first gives his opinion of it as a domestic fuel, and then as a steam generator, viz.:

"Patent Saw and Corn Mills, Montgomery-street, Dublin.

"Your peat fuel is first-class for house purposes. I divided what you sent me amongst a few friends, and all are loud in their praise of it. I cannot give an opinion about it for steam yet, but I would like to get five tons of it for that purpose. If you succeed, and which I have no doubt you will, it will be a great boon for Ireland. "DAVID M'DOWALL."

I then sent him a larger lot, and received the following:

"I have used a good deal of your peat fuel in my house, and we prefer it before the best house coal. I have also tried it for steam purposes recently, and although my boilers are not so suitable for it—being made purposely for burning saw-dust—I am persuaded that where tubular boilers are used, either on land or sea, it would be much preferable to either coke or coal, and would be found a first-class fuel for generating steam. I cannot but wish you every success with your invention (decidedly a good one), and I will most heartily join in a company to carry it out.

"I am, dear sir, faithfully yours,
"DAVID M'DOWALL."

"P.S.—All engineers know very well that tubular boilers require less flame than cylindrical ones, but the more extreme heat the better. Hence the use of coke; it is the very thing your peat is adapted for. "D. M'D."

As to the *minutiae* of the cost of manufacture, in case any gentleman present might wish to know it, I will add the following particular items of the manipulation as close as I can here:

<i>Cost of Handwork.</i>	Per ton.
	s. d.
Mashing	0 9
Moulding (at the rate of 10 tables to make a ton, at 3d. per table)	2 6
Turning the "pats" on the tables	0 6
Baking-off and carrying to store-sheds	0 3
Filling up bags, carting from store-sheds to the main store-houses adjoining the bog	1 0
Total, 5s. per ton for manipulation	5 0
Leaving 3s. per ton to answer for incidental expenses of agency, superintendence, &c., as well as interest on money expended on plant, which will be found more than sufficient	3 0
Total cost per ton	8 0

It has been remarked to me that if my process be the good and profitable one that I state it to be, why has it not been

taken up as largely as is required in Ireland? I am sorry to say I cannot answer that question further than that Ireland has been the locality where two remarkable peat establishments were erected not long since, which, being attempted on wrong principles and extravagant outlay, failed, and whose failure has disgusted the public so much that it is both blind and deaf to any further experiments in peat. But this blindness and deafness to a simple and economic process like mine cannot, I suppose, last for ever. Another friend of mine has told me

that my process is quite unknown, and that I have not advertised it enough. That is quite true, for I wished to wait until I had properly satisfied myself that I could satisfy others. Having done this, and having now brought it before the notice of the Society of Arts, it cannot at least any longer remain unknown. I exhibit a bag full of the "pats," taken from one of the store-houses, where I have about fifty tons kept for sample. They are, as may be seen, more like hard wood than coal, and suffer no waste whatever in carriage.

THE FRENCH PEASANT FARMERS' SEED FUND.

The first meeting of the general committee, nominated at the public meeting on the 19th of December, was held at the Salisbury Hotel, Salisbury-square, on Thursday, January 5, Lord Vernon in the chair, when it was reported on behalf of the hon. Secretaries that circulars had been sent to the various Agricultural Societies, requesting them to take the necessary steps for the formation of local committees, and that the offer of Mr. Odams to place his wharf at the Victoria Docks at the disposal of the association had been accepted. These acts of the secretaries having been formally approved of, on the motion of Mr. J. Caird, seconded by Mr. J. Howard, M.P., Lord Vernon was unanimously voted to the chair of the executive committee.

In acknowledgment of the honour conferred on him, his Lordship said that the position not only of the chairman, but of every member of the committee, would be a very responsible one, inasmuch as the duties devolving upon them would require to be performed with great delicacy. They would be entrusted, no doubt, with an amount of money which would probably be very large; though possibly it might be small. If it were large they might have difficulty in its distribution on that score, whilst if it were small they might have difficulty in exercising a proper discrimination in sending it to those districts in France which most wanted assistance. Under any circumstances they would have to be very careful indeed, that the money was actually applied to those who had been placed before the public as requiring their help. It would be important, then, that they should be able to show the public that the grain sent to France, whether subscribed directly by the farmers or purchased with money, was really used for the sowing of the land. He was well aware that when a hostile force was in possession of any large portion of a country, as was the case with the German army in France at this moment, there might be considerable difficulty in forwarding grain to the spots that it was desirable to relieve; but that and similar points were matters of detail, and he was persuaded, if they approached their task with energy and a proper feeling of the responsibilities to which he referred, that they would be successful; that they would inspire the agricultural body in this country with such confidence that the necessary funds would be subscribed, and that they would be able to distribute them in many parts of France, if not in all, that they desired to assist. He might add that he had been induced to fill the post of Chairman mainly because Mr. James Howard, who, he was glad to see, was so far recovered from his recent illness as to be present that day, had expressed a desire that he (Lord Vernon) should act as their Chairman; and because he felt confident that that hon. gentleman, even if he found himself prevented from attending their meetings as closely as he could wish, would give them the benefit of his counsel and advice (Hear, hear).

The following gentlemen, being members of the general committee, were then appointed an executive committee: Lord Vernon, Mr. J. Howard, M.P., Mr. C. S. Read, M.P., Mr. James Caird, C.B., Mr. J. C. Morton, Mr. Owen Wallis, Mr. R. Leeds, Mr. Aveling, Mr. H. Corbet, Mr. Odams, and the three Honorary Secretaries; their functions being the collection of donations and the obtaining of information with regard to the French requirements; the general committee to be summoned previous to the commencement of any distribution of seed.

The following letter from M. Drouyn de Lhuys was read:

Société des Agriculteurs de France Présidence.

St. Heliers, Jersey, 26th December, 1870.

Monsieur le Président,—It is a matter of much regret to me

that I could not be present at the meeting held at the Salisbury Hotel on the 19th of this month. I have just read with keen interest the report in the newspapers, and it is my heartfelt desire to express to you the sincere gratitude with which the generous resolutions carried at that meeting have inspired me. The impulse having been given, I feel convinced that the movement will not be arrested until the object has been attained; the well-known perseverance of your nation being a sufficient guarantee. The English farmer does not abandon his plough in the middle of the furrow.

In order to carry out the project in question, two points must be considered. 1st. The appeal for donations in money and in kind, their collection, a bank to receive the money, and warehouses to store the seed. Measures of this nature have already been partially taken, and will eventually be fully carried out in the three kingdoms by the efficacious initiative of your committee, assisted by the unanimous and friendly co-operation of the press of Great Britain. 2nd. The organisation in France of committees charged to report the special needs of those localities ravaged by the war, and to prepare the basis of an equitable distribution amongst individuals. It would seem that the most practical combination would be to constitute in each commune a committee composed of the mayor, or his delegate of the vicar and the schoolmaster. This committee should make out a statement, showing the quantity and kind of seed and other requirements necessary for preparing and sowing the land. To this statement should be subjoined the list of names of those peasant farmers applying for aid, with the extent of their holdings and the needs of each of them. This statement, properly certified, should be sent to a committee formed in the chief town of the district, and composed of the mayor, the justice of the Peace, the senior attorney (town clerk), the magistrates of Quarter Sessions, and 3 members of the Société des Agriculteurs de France, or of the local agricultural society. This committee would be charged with collating the statements from the communal committee, and with certifying and settling the definitive plan of distribution, which plan should be sent as early as possible to the London committee. The English Consuls and the delegates of the English committee should take part in the deliberations of the communal committees and of the district committees as often as they might consider it desirable. The district committees, by the intermediary of the respective mayors, would deliver to each peasant farmer, whose application should have been registered, a draft signed by the president of the committee, and indicating, together with the name and address of the applicant, the quantities and the materials to be handed over to him. It remains to be determined the places where the objects (seed) should be deposited, and where the drafts should be presented to obtain delivery. This point will have to be arranged by a common understanding, taking due note of the position of hostile troops, the state of the roads, means of transport, &c., &c., &c. Such, Monsieur le Président, are the observations which I have forwarded to France by last post, reserving full power to make such changes as the London committee might consider necessary. I beg you to receive, Monsieur le Président, the assurance of my distinguished consideration, and of my sentiments of devotion.

(Signed) DROUYN DE LHUYS,

President of the Société des Agriculteurs de France,
and Honorary Member of the Royal Agricultural
Society of England.

It was further agreed, on the motion of Mr. Aveling, seconded by Mr. J. Howard, that special meetings of the

general committee should be convened on the requisition of any three members of the executive committee.

The President was requested, by resolution, to communicate with the ambassadors of France and the North German Confederation, with a view of ascertaining what assistance can be given by their respective Governments to ensure that the seeds sent to the distressed peasant farmers shall be used only for sowing the land.

Mr. ALBRIGHT stated that the German governor of Lorraine had intimated to the Society of Friends his willingness to render every facility for the distribution of the seed within the territory under his jurisdiction, so that there would be no danger of its being appropriated as food by the Germans.

Mr. HOWARD suggested that any such misfortune as that might be averted by steeping the grain in a chemical solution, so making it unfit for food, and labelling it "poison."

The Secretaries were subsequently instructed to communicate with the railway and canal companies, with a view of obtaining free conveyance of donations to the French Peasant Farmers' Seed Fund; also to issue circulars specifying the kinds of seed most likely to be useful.

Several names were added to the general committee, and it was resolved that the members of both Houses of Parliament, the chairman, and secretaries of the various agricultural associations, the Council of the Royal Agricultural Society, the Smithfield Club, the Yorkshire Agricultural Society, the Bath and West of England Agricultural Society, the Chamber of Agriculture, and the Committee of the London Farmers' Club should be invited to become members of the general committee.

Thanks were voted to Mr. Odams for his offer of wharfage accommodation; and it was announced that the London and County Bank had consented to act as bankers, and that since the public meeting in December the list of subscriptions had been increased by the sum of £435 10s., making the total £1,370 13s. Additional subscriptions amounting to nearly £40 were also handed in, and some liberal contributions "in kind" promised, including a load (40 bushels) of seed corn by the Earl of Chichester.

The proceedings closed with a vote of thanks to the chairman.

RELIEF FOR FRENCH FARMERS AND PEASANTS.

On Saturday, Jan. 7, a meeting of the East Kent Chamber of Agriculture took place in the Town Hall, Canterbury, to consider what steps should be taken with the view of organizing a fund, and (so soon as peace is declared) of receiving contributions, either in money or seed-corn, for the relief of the French farmers and peasants whose lands have been devastated during the war. The hon. G. W. Milles, M.P., was in the chair.

The CHAIRMAN, in stating the object of the meeting, mentioned that, in supporting the movement for which they had assembled, it should clearly be understood that they were not declaring themselves in favour of one country or the other, their only object being to alleviate if possible the distress which must result to the agricultural community in those districts where war had been raging.

Mr. JAMES LAKE proposed that a subscription-list be opened, and the money subscribed forwarded to the Central Committee.

Mr. AVELING (Rochester), in seconding the resolution, stated to the meeting the operations of the Central Committee.

Lord FITZWALTER pointed out that if the Central Committee distributed money and corn during the continuance of the war, there would be several difficulties to meet. He was afraid that if the money and corn given were distributed while the war existed, it would be almost waste, because the good done would be undone by the effects of the war.

Lord HARRIS said there was an important question to be considered in reference to distributing the subscriptions during the existence of the war. It was exceedingly doubtful whether, considering the strict neutrality we had adopted—and this was the only right course we could have taken—we could supply one country with seed while the war lasts. If it could be done without interfering with our line of policy let it

be done; but it was a question that required some serious consideration.

Mr. AVELING said their lordships might rest assured that the Central Committee would give the subject alluded to its most serious consideration.

After some discussion as to whether subscriptions in kind or money should be given, the following resolution was agreed to unanimously: "That this Chamber organise a fund to be collected forthwith, and that as soon as peace is declared such money be handed over to the Central Committee for the relief of those French farmers and peasants whose lands have been devastated by the war."

Those present at the meeting quickly promised subscriptions in money amounting to £200, and there were likewise many promises made of seed corn.

The money and kind will be handed over to the Central Committee Fund at the close of the war.

THE ESSEX CHAMBER OF AGRICULTURE.—

The annual meeting was held at Chelmsford; Colonel Brise, M.P., the president, in the chair. The Secretary read the report, from which we take the following: We are pleased to be able to congratulate the members of this Chamber on its being one of the largest and best supported Chambers in the kingdom, there being now on the books upwards of 700 members; but the Council regret that they have again to call attention to the subject of unpaid subscriptions, which occasions great inconvenience in making out the financial statement, and also inflicts great additional labour on the secretary; but they feel that they have only to bring this subject to the notice of those who have not already paid the very trifling, and in fact merely nominal annual subscription of 5s., to ensure it being sent at once to the secretary. It will be a fair subject for consideration at this annual meeting whether the present mode of collecting the subscriptions does not admit of improvement. Mr. A. Johnston, M.P., was elected president for the ensuing year, and Mr. J. Round, M.P., vice-chairman; after which votes of thanks were passed to Colonel Brise, M.P., for his able and efficient presidency during the past year, as also to the secretary and other officers. The next meeting of the Chamber was fixed to take place at Colchester in the middle of February.

THE ESSEX AGRICULTURAL SOCIETY.—At the annual general meeting, Mr. J. O. Parker in the chair, a letter was read from Mr. Manfred Biddell, of Playford, Suffolk, enclosing a cheque for his subscription to the Society for the year 1869-70, and '71 in advance, and stating that it would be the last he should send till the Society opened its prize lists to All England. He was an owner of land in Essex, but could no longer see the fun of paying for prizes to those who are fortunate enough to own more than he did. The Suffolk Society was heartily glad to pay any Essex exhibitors any prizes they could win at the Suffolk shows, and in the Shorthorn classes they won nearly all the prizes, and as long as they sent better animals than the Suffolk breeders, those latter breeders had pleasure in thanking them and paying them all they could win. Mr. McIntosh, who was elected president, said he did not know that he should be out of place in stating thus early that he intended offering a prize to be competed for at the Romford Show. It would most probably take the shape of a challenge cup or some prize of that description. He should like to consult his friends the Shorthorn breeders upon the subject. As they were aware his yearling heifer gained the first prize at the Saffron Walden Show as well as at Oxford. He sold it for 500 guineas, and for a bull calf he had obtained 600 gs. He thought he might be satisfied by taking for himself the 1,000 gs., and would offer the remaining 100 gs. as a special prize. In the report of the committee was the following: Your committee was induced this year, by the urgent desire of some of its members, to make the experiment of holding a public auction for the sale of animals duly entered for the show. The sale was ably conducted by Mr. W. Rand, of Saffron Walden. The committee is of opinion, however, that the results will not justify its continuance, but will tend rather to lower the character of the annual exhibition, and to divert public attention from the main object the Society has in view.

CARR'S ANNUAL HARVEST REPORT.

ROSTOCK, 17th DECEMBER, 1870.—We herewith most respectfully hand you our Annual Harvest Report. The contents form a summary of reliable information, for which we are thankfully indebted to our numerous kind and trustworthy correspondents. We have added our N.B.'s as usual, from which you may draw your own conclusions as to the PRESENT and PROBABLE FUTURE course of the trade. As to the PAST, we can only refer to our remarks on the probable future state of the trade in our last Annual Report.

PRESENT.—Trade steady but quiet, with an inclination upwards, so that it must be concluded that it is in a sound position; the more so, as at this period of the season it habitually is one of dulness more or less, and considering that millers and bakers hold fair stocks, and that consumption is interfered with by large supplies of cheap and good potatoes. But prices are not high, and no doubt this fact, and the fact that rates in the Mediterranean and Belgian ports are higher than those paying in the U.K., backed by frosty weather, which not only increases consumption, but also strengthens the nerves of holders by leading them to expect, and naturally so, that when the anticipated large arrivals (598 cargoes, against 454 cargoes same time last year) actually get in, which must ere long be the case, they will for some time to come fall off. It is true that from New York, San Francisco, Chili, also from Odessa and the Danubian Principalities, important shipments were still in progress, but as the canals in the United States are now closed, and as the winter has set in in Southern Russia, the shipments will now cease, and the quantity shipping and on passage will only fill up the gap owing to the falling off in the arrivals in November, which amounted to nearly 400,000 qrs., without taking into consideration the quantity exported from the U.K., and that no doubt a very considerable quantity expected to arrive in Great Britain will be detained at the various Mediterranean ports, particularly at Marseilles. Further, it cannot be doubted but that the British farmers have sold more of their produce than usual at this period of the year; first of all they began to supply the markets some weeks earlier, particularly with wheat and barley, the larger ones for the sake of straw, and the smaller ones in order to raise the needful to meet current outlays and to buy forage; hay and turnips being scarce and dear, particularly the former. The above "pros" and "cons" are no doubt the chief cause of the present healthy state of the trade.

THE PROBABLE FUTURE.—What we have above stated applies more or less thereto. On referring to our N.B.'s under the various countries, you will find that Great Britain and Ireland require foreign aid to the extent of eleven million qrs. wheat and flour to carry the U.K. through from the 1st September, 1870, until the 1st September, 1871; or thirteen million qrs., to leave a similar computed stock of wheat and flour in store on the 1st September, 1871, and, provided always that the harvest of 1871 takes place at the same time as in average seasons. It will also be found that France will require an importation of four million qrs. wheat and flour; that the Mediterranean districts, and also Belgium, Holland, and Switzerland require aid to a greater extent than last year. Further, it will be seen that the British Lion's providers will be North America and Chili, which we have put down as being able to spare four million qrs. wheat and flour;

Russia, two-and-a-half million qrs.; Germany, one-and-a-half million qrs., including what may be exported via Stettin, from Hungary and Galicia; Austria and her provinces, excluding what may be sent via Stettin, Turkish dominions, and Danubian Principalities, half-a-million qrs. wheat; Egypt, quarter of a million qrs. Wheat; and Denmark, one hundred and twenty-one thousand qrs. wheat—total, 10,121,000 qrs. wheat and flour, leaving in round numbers one million qrs. to be made up by economy, or the use of other substitutes, and provided always that Great Britain and Ireland get the quantity above estimated, which there is every probability may not be the case when one takes into consideration the extended wants of the various countries above stated. At all events, where there is competition, prices generally do not rule low, and at present they are not high, there being scope for a considerable rise as the season advances, and the rise will be facilitated and the more aggravated, should England get mixed up in a war with either Russia or America, or perhaps with both, which is to be hoped will not be the case; the more so as the Turkish Government are for peace, and wisely so. The Alabama question may also be diplomatically arranged to the satisfaction of all, though at present the political horizon is far from satisfactory, and not in favour of low prices. It is further to be feared, that when the French-German war is at an end, civil war in France will be the order of the day. The short crop of hay and turnips, and the facts of feeding stuffs being dear and scarce, the short stocks of rice, high freights, and scarcity of ships and railway waggons; further, the cattle disease all over Germany, are all auxiliaries to keep prices up in those countries wanting foreign aid.

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ENGLAND.—The breadth of land sown with wheat, in autumn, 1869, was less by 195,226 acres than in 1868; the seed was well got in; the winter was severe and protracted, particularly in February and March, the temperature was killing, which thinned out many of the wheat plants on the light, gravelly, and chalky lands, the good medium soils also suffering. Owing to the cold, dry spring, and the lateness of the season, little spring wheat was sown, consequently, a larger breadth of barley. Up to the end of April the crops were very backward, and had a very patchy appearance, and, had it not been for the fine summer (it being unprecedentedly dry—the drought set in earlier than in 1868) and very favourable weather for blooming time and housing of the crops, they would have been very unsatisfactory. Wheat and barley suffered somewhat in June from wireworm and slugs, particularly in the wolds of Lincolnshire, Gloucestershire, Buckinghamshire, Essex, and the adjoining counties. The heavy soils in the northern and middling counties withstood the drought better than those of the southern districts. One of our London correspondents writes: The old proverb that a drought and a dearth never come together in this country was put to the test and verified this year. The yield per acre varies greatly, namely from 4 to 6 qrs. on the heavy, and 2 to 4 qrs. on the light gravelly lands, say one fourth of the soil sown yields over an average, two-fourths an average, and one-fourth half a crop, ergo about 10 per cent. below an average yield in quantity, of fine quality, excellent condition, and about 2lb. per bushel above an average weight. Barley, larger breadth sown (say 117,146 acres more than last year), but suffered from a droughty and cold season, therefore the yield is sadly deficient (say of the quantity sown one-third yields a full average, one-third about an average, and one-third under an average, on the aggregate about 20 per cent. under an average yield per acre), quality various, much being flinty and coarse, but in the whole its malting properties

are not much complained of. Oats, rather less (say 22,013 acres) sown than last year, and yield about 15 per cent. under an average per acre; quality indifferent; condition and colour not over satisfactory. Peas, about an average yield, condition looks fine, but they do not boil altogether up to the mark. Beans, about 30 per cent. below an average yield, quality and condition good. Potatoes, good yield, fine quality, and very cheap. Turnips, very deficient yield, having suffered from drought and flies. Hay crop, one-half to two-thirds of an average.

WALES.—Wheat, less land sown, yield various, good on heavy, but very short on some of the light soils; yet, on the whole, the yield is slightly over an average per acre, it being in some fields 15, and in others up to 60 bushels; quality and condition fine. Barley, oats, and beans under average, these cereals having suffered much from drought. Potatoes have yielded abundantly, and are very good in quality, and almost free from disease. Hay up to half a crop.

SCOTLAND.—Rather more land sown in autumn with wheat under good auspices, the winter being severe and protracted, thinned, to some extent, the plant, which in early spring suffered through the ravages of the maggot and white grub, and thus a great number of acres were ploughed up, and re-sown with barley, therefore the quantity of land under wheat was considerably under an average; the yield per acre is an average, quality and condition good, average weight 62 to 63lb. Rye has been sown to a greater extent than ever it was before, and gives a large bulk of good sound quality. Barley, best crop of the season, being a full yield, excellent quality and condition, average weight 55 to 56lb. per bushel. Oats, about an average in northern and southern counties; quality and condition fine in the northern, but in the southern counties suffered somewhat from rain; average weight 40 to 45lb. Peas, nearly an average quantity, quality good. Beans, very deficient yield, quality good. Potatoes, good crop, quality fine. Turnips, poor crop, suffered from drought. Hay, good crop.

IRELAND.—Wheat, 19,546 acres less land sown in good order, got tolerably well through the winter, but in fact (say about one-third) not being secured ere the rainy weather set in, suffered somewhat in condition and weight, which varies from 54 to 63lb., mildew is also here and there prevalent, the yield on the whole one-fourth below an average. Barley, an increased breadth of land sown by 19,249 acres, yield full average, good quality, average weight 54lb. Oats, 36,476 acres less land sown, yield per acre 25 per cent. below average, quality very good, weight 40lb. Bere and Rye, 581 acres more sown, crop tolerably satisfactory. Beans and peas 760 acres more sown, crop satisfactory. Turnips, 16,987 acres more planted, crop 25 per cent. below an average. Potatoes 1,886 acres more planted, one of the largest and freest from disease for many, many years past, this will greatly lessen the demand for wheat. Hay, a good crop.

N.B.—It is a singular coincidence, that just the staple cereals grown and consumed in the three parts of the U. K. should have turned out best; for instance, England's best crop is wheat, Scotland's barley, and Ireland's oats and potatoes. As to the general yield of the United Kingdom of Great Britain and Ireland, taking the 5 per cent. short breadth of land sown, and the 10 per cent. short yield per acre, total 15 per cent., against which put the excellent quality, condition, and weight per imperial bushel, which we consider equal to 1,000,000 qrs., and putting down the average produce of the United Kingdom according to Mr. McCulloch's calculation, at 18,000,000 qrs., makes the yield of 1870 16,000,000 qrs., from which, deduct the quantity required yearly for seed, which Mr. McCulloch puts down at one-sixth the produce, or 3,000,000 qrs. leaves 13,000,000 qrs., add to which the probable stock of old wheat and flour in the hands of the farmers and trade in general on the 1st of September, say, equal to 2,000,000 qrs., leaves 15,000,000 qrs. to meet the consumption for the 12 months, ending 31st August, 1871, which we estimate to be in average seasons at 25,500,000 qrs. wheat and flour. But this campaign, owing to the shortness of the crops of other cereals, and the dearth of animal food, we think we will not be very far wrong when we estimate the probable consumption this campaign at, in round numbers, 26,000,000 qrs. Wheat and flour, according to which the United Kingdom will require an importation of fully 11,000,000 qrs. of wheat and flour, to make both ends meet, or 13,000,000 qrs. to leave the same quantity in store on the 31st of August, 1871 as was held on the 31st of August, 1870. Last campaign there has been imported in the United Kingdom 37,285,200 cwt. or 8,331,985 qrs. of 500lbs. wheat, and 5,631,975 cwt. flour, or at 3½ cwt. flour, equal to 1 qr., equal to 1,611,133

qrs., total 9,943,018 qrs. wheat and flour; ergo there are 1,000,000 qrs. less than we calculate will be required this campaign. The question now is, whether the exporting countries will be able to supply the same amount of wheat and flour to the United Kingdom, having more customers to serve this time, and to a considerably greater extent than last year, and whether the said exporting countries may not require more money under the circumstances; for the probable solution of this we refer to our N.B., where we comment on the result of the crops in the various importing and exporting countries.

FRANCE.—The same breadth of land sown in autumn, 1869 as in 1868, under favourable auspices; the winter was long and severe, and spring sowing was done under tolerably favourable auspices, the crops suffered from night-frosts at the end of April and early in May, particularly rye, barley, oats, and seed. Wheat suffered least, except the white grades, and on light soils it had a patchy appearance. The summer has been remarkable for its drought and heat, which did a great deal of harm to the spring-sown grain—hay and grass were literally burnt up! Blooming time went off well, particularly in the Southern and Central Departments. Wheat is the best crop of the season, hay and grass the worst. The quality, condition, and weight of the grain, with few exceptions (of which oats form one), is very satisfactory, colour might be better, wheat, in particular, being dark, somewhat flinty, and a slight admixture of sprout may be found here and there in the parcels gathered just at the close of harvest, when rainy weather was prevalent more or less; as to the quantity grown, the Southern Department have been best favoured, the yield of wheat may be called nearly a good average. Barley and oats, very little grown in these districts, in the Northern and North-western the yield is not good, having suffered from drought and rain; in the North-eastern, whatever may have been the yield, there is nothing left of either cereals or cattle, the peasant being destitute of even the required quantity for seed, ergo the prospects for the inhabitants of these Departments for the years 1870, 1871, and even 1872 are very gloomy; a similar state of things exists in the Eastern and South-eastern Departments. The South-western have been more fortunate, the yield of wheat and rye being only a trifle under an average, oats a poor, and barley a middling yield. Potatoes are a very moderate yield, and diseased more or less, particularly in the Eastern and South-eastern Departments.

N.B.—According to official accounts the wheat crop is equal to 34,000,000 qrs., against 41,000,000 qrs. in 1869. The following is a very interesting account of the yield in the various Departments of France, taken in full from the yearly report of the crops, issued by M. Estienne, in Marseille: Very good yield. 1 Department (above Pyrenees), with 69,461 hect. soil; good, 22 Departments, with 3,839,555 hect.; tolerably good, 14 Departments, with 2,772,700 hect.; moderate, 20 Departments, with 3,561,561 hect. (without the Department Maas); middling, 24 Departments, with 3,841,339 hect.; bad, 8 Departments, with 1,172,439 hect. The several cereals give the following results—Rye: very good, 1 Department; good, 22; tolerably good, 14; moderate, 20; middling, 25; bad 7. Wheat: very good, 4; good 13; tolerably good, 33; moderate, 3; bad, 3. Barley: very good, 6; good, 7; tolerably good, 2; moderate, 29; bad, 39. Oats: Good, 2; middling, 29; bad, 57. The total yield is estimated four-tenths of an excellent, four-sevenths of a tolerably good one.

In our opinion, had it not been for the wilful destruction of all kinds of cereals in the Departments above alluded to, caused by the war, the yield of wheat would not have been so very bad; but, as it is, the yield is decidedly below an average; this, coupled with the short yield of all other kinds of grain and fodder—and to add to the gloom the cattle disease has broken out in addition to that of the potatoes—will oblige France to import at least 10 to 15 per cent. of what she consumes per year (which in average peaceful seasons we put down at 96,000,000 hect., and 15,000,000 hect. for seed), par to 4,000,000 to 5,000,000 qrs. of foreign wheat and flour; and we fancy that, owing to the want of hands, seed, &c., the crop of 1871 will turn out, even under good auspices (the sowing having been tolerably well proceeded with in the unoccupied Departments, but this may be greatly lessened and destroyed by the ravages of war) much more deficient than that of 1870, ergo, for at least two years to come, will compete with the U.K., and other importing countries to the above extent. Such is the scarcity of potatoes in the French Departments occupied by the German forces, that the King of Prussia has ordered that the freight on potatoes on the State railways is to be only 1 pfennig (12 pfennigs equal 18gr., and 108gr. equal 1s. English) per German mile (or four-and-a-half English miles) per cwt., and recommended the private railway companies to follow the said humane example.

HOLLAND.—Usual breadth of land sown in autumn under good auspices, though a little later than usual, got well through the winter, rapeseed excepted, of which much was re-ploughed and sown with spring corn, chiefly oats. Quality of all cereals suffered more or less, as two-thirds were out when the heavy rain set in, which affected the condition, colour, and weight. The northern provinces continue cultivating more and more fax. Wheat about seven-eighths of an average in yield, deficient in quality, being coarse, and various in weight and condition. Rye, 95 per cent. of an average. Barley, oats, and potatoes average crop, latter one-third diseased. Buckwheat under an average.

N.B.—Holland will this year import about the same [as last year, say \$90,000 qrs. wheat.

BELGIUM.—Usual breadth of land sown in autumn, got well through the winter; the spring was cold and dry, and summer droughty, which did harm to the crops, these also suffered from rain during harvest time; in the western and coast districts, the harvest has been best favoured, the eastern districts not so good. Wheat, rye, and peas full average. Barley, not an average in quantity and quality, having suffered from heat and drought. Wheat, variable in quality, the greatest portion being damp. Rye is of fine quality, though here and there condition is not exactly satisfactory. Potatoes, short crop and sadly diseased. Hay and grass very deficient yield.

N.B.—Belgium will this campaign import a considerably larger quantity than last year, for the simple reason, she has not only her usual home customers to supply, but will no doubt have a considerably greater quantity to supply to the Rhenish Provinces and France.

SWITZERLAND.—The severe and protracted winter, cold and dry spring, and droughty summer has caused this year's harvest to be deficient, particularly meadows, and pastures suffered extensively, and produced less than half a crop.

N.B.—Switzerland will require more aid than last season, and will have to draw her supplies from Austria, &c., instead of from Marseilles.

GERMANY.—**BAVARIA AND SOUTHERN DISTRICTS:** In spite of the abnormal weather in early summer, the crops are represented tolerably good. **SAXONY (Central Germany):** heat and rye vary according to the soil, and how the plants were covered in February with snow to protect them from frost. Rain did harm to the crops during the harvest, and quantity is considerably less than last year, and quality poorer. Wheat much sprouted. Rye is the best crop of the season in regard to quality, being mostly secured ere rain set in. Barley and oats fair yield, but sadly lessened in quality from rain, particularly oats. Potatoes short crop; suffered greatly from wet. Oilseeds tolerably good. **BERLIN DISTRICTS:** Crops leave much to be wished for, rye excepted, which is a tolerably good crop; but wheat, barley, and oats are not satisfactory. **TILSIT AND MEMEL DISTRICTS:** Wheat a full crop, and though here and there secured rather damp. Rye nearly an average. Barley and oats also satisfactory. Linseed middling crop. Peas suffered from worms, otherwise not bad crop. Hay rather short. **KONIGSBERG DISTRICTS:** Usual breadth sown with autumn grain in a good state; got well through the winter. Spring grain less planted, but under good auspices. The crops were secured under various circumstances, and thus there is a great variety of grain from very fine to very bad. Wheat full average, quality variable, weight 56lb. to 61lb., condition various. The same may be said of rye and barley; weight of the former 56lb., of the latter 50lb. Oats below an average, quality various; weight 34lb. to 36lb. Peas below average yield, but good in quality; weight 64lb. Oilseed below average. Potatoes moderate average. **DANZIG DISTRICTS:** Usual breadth sown under good auspices, and in spite of the severe winter all cereals got well through, except rubenseed, which suffered more or less. Spring-sown grain not so good, though not badly got into the soil. The result of this year's harvest would have been in every respect very good had it not been for the rainy weather and the want of hands at harvest time. Wheat good average yield: quality various; weight 56lb. to 61½lb. Rye good yield, though not so good as in 1869; weight 58lb. Peas 16 to 25 per cent. below average; quality not very good. Barley under average; middling quality. Oats moderate average, and suffered much from rain. **POSEN OR PRUSSIAN POLAND DISTRICTS:** Wheat 90 per cent. of an average; quality

various; here and there sprout; in some districts the quality is better than in others. The same applies to rye; the yield in quantity, however, is 5 per cent. less (ergo, 85 per cent. of an average). Barley goodish crop, except in the parts where sowing was delayed; rather lighter in weight. Oilseeds short crop, a great deal having been ploughed up. Peas suffered from maggot and rain. Oats a moderate crop. Feeding stuffs and potatoes good. **SILESIA DISTRICTS:** Crops, on the whole, satisfactory in quantity, but rain did harm, particularly in the hilly districts, so that at least one-third of the wheat, barley, and oats suffered much in quality and condition, being more or less sprouted. Rye is the best quality, having been mostly secured before the rain. Potatoes satisfactory crop. **UPPER POMMERANIAN AND STETTIN DISTRICTS:** Pommeranian wheat, much under an average; quality middling, weight light. Rye, average; quality good; weight 56lb. to 58lb. Barley, full average; quality inferior, having suffered from rain. Oats, about average in yield; quality various. Peas, fairish yield. Potatoes, half a crop. **STETTIN DISTRICTS:** Usual breadth sown in autumn, under good auspices, but the autumn was too cold, and the seed could not germinate, and went rather spindly out the winter, which was very severe, and in many places little snow had fallen to protect the plants. The usual kinds of red wheat withstood the winter best, although the plants looked miserable in spring; nearly all fine English grades and fine white Polish wheat, which have been much in vogue in the Uckermark and Pommeranian districts, had to be ploughed up and re-sown in spring with spring grain. Rye withstood the severe winter best; only in the wet cold fields is there any loss of plants. Rain at harvest time did great damage, affected the quality and condition of the crops seriously; wheat is sprouted, chiefly on the coast districts, and the yield is not two-thirds of an average, weight 60lb. Barley, good average yield, weight 50lb., suffered from rain, and the colour is rather dark, sprout is more or less prevalent. Oats, full average, quality deteriorated by rain and somewhat sprouted, weight 35lb. Peas, full average, partly very soft and sprouted. Oilseeds, about two-thirds of an average. **LOWER POMERANIAN (ANCLAM, WOLGAST, GRIEFSWOLD, DEMMIN, ISLAND OF RUGEN, STRALSUND, AND BATH) DISTRICTS:** Usual breadth sown in autumn under fair auspices (except in the Stralsund districts, where the soil was very wet), and promised tolerably well at first, but winter set in severely, with little or no snow covering, and upset the good prospects, and the so-called Scotch grades perished nearly entirely; the soil was re-ploughed. The crops again suffered by drought, and, last of all, rain during the harvesting has done a great deal of harm to the condition, sprout being prevalent to a great extent. The land ploughed up was re-sown with spring corn and dodderseed. Rye was mostly secured before the rain set in, and thus the quality is good. Barley and oats suffered in quality, condition (sprout being prevalent), and colour from rain. Wheat yields 65 per cent. of an average, weight 58lb. to 60lb.; the wheat grown from home-grown, and mixed with Holstein seed, has less sprout and weighs 61lb. to 62lb., as this plant withstood the wet better. Rye, 75 per cent. of an average, weight 57lb. to 59lb. Barley, oats, and tares full average. Barley weighs 50lb.; oats 36lb. per imperial bushel. Potatoes, three-fourths of an average. Hay, nearly an average. **ROSTOCK AND WISMAR (MECKLENBURG SCHWERIN) DISTRICTS:** Usual breadth of land sown in autumn under favourable circumstances. The winter set in severely with little or no snow. Oilseeds suffered, and the so-called English grades of wheat, which of late years have found increased cultivation in Mecklenburg, suffered very severely from frost in January and March, and later on from night-frosts, so that three-fourths of the soil sown with said qualities was ploughed up and re-sown with spring wheat, barley, and dodderseed. The rain, which fell daily during the latter part of harvest, did great damage to the quality and condition, so that sprout is prevalent more or less. Wheat, half to two-thirds of an average in yield, average weight 60lb. Rye, average yield, quality good, average weight 50lb. to 51lb. Oats, 10 per cent. above average. Peas, three-fourths of a yield. Oilseeds, one-third of an average. **LUBECK DISTRICTS:** Wheat, moderate average, quality poor, weight 58lb. Rye, about an average, quality fine, weight 58lb. Barley and oats not satisfactory, colour dark, weight light. **HAMBURG DISTRICTS:** Crops suffered severely during the housing,

which was protracted, owing to the want of hands. The autumn seed was well got into the soil, of which an extra breadth was planted, but the frost destroyed the whole of the plant grown from Scotch seed, which was sown to a great extent in this district, and rivets in the provinces, and Brandenburg and Saxony; thus there is a large deficiency in the quantity and quality grown, and the quality and condition sadly lessened from rain, sprout being more or less prevalent, and the colour also not good; weight ranges from 54lbs. to 60lbs., but the largest quantity offering weighs 58lbs. to 59lbs., very seldom 60lbs. Rye fine yield, quality good, weight 50lbs. to 58lbs. Barley moderate average, quality damaged by rain, and a large quantity only fit for feeding. Oats a full crop, quality and condition damaged by wet. Potatoes moderate yield. **HOLSTEIN AND SCHLESWIG DISTRICTS:** The yield has turned out deficient, and wheat less than an average, the yield having been lessened by large parcels being ploughed up, which had been killed out by the severe winter, and re-sown with corn; average weight 57lbs. to 61lbs. Barley large crop, quality various, mostly damaged by rain; weight 52lbs. to 54lbs. Oats good yield; weight 36lbs. to 40lbs. Peas a fair crop, quality variable. Potatoes good. **SCHLESWIG:** Wheat grown from Scotch a failure, and had to be ploughed up again, whereas that grown from home seed has withstood the frost better; but even this suffered, and had more or less to be ploughed up; more spring corn sown, therefore. Buckwheat sown to a greater extent. Wheat small yield; quality good, heavy weight and good condition. Rye, Barley, and Oats good crop in every respect. **BREMEN AND OLDENBURG DISTRICTS:** Usual breadth sown, but owing to the unfavourable winter a good deal had to be ploughed up and re-sown with spring corn under favourable auspices. The result of the harvest varies according to the soil, and how far the frost and wet had done harm in the different localities. Wheat half a crop; but wheat plays a very insignificant part in this district; quality and condition moderate; weight 57lbs. to 58lbs. Rye two-thirds of a crop, fine quality. Barley full average. Oats ditto. Peas and beans 25 per cent. short of last year. Potatoes good yield, and little or no disease. **EMDEN AND LEER (HANOVER) DISTRICTS:** Owing to the wet weather little autumn grain sown, and that little not under good auspices; it got tolerably well through the winter. In consequence of less wheat there was more spring corn sown, particularly oats, which is the chief article of produce in the above districts; then comes beans. Per acre wheat is an average, poor quality, light weight. Barley tolerably good. Oats above an average, quality tolerable. Beans half a crop, quality middling. **RHINE DISTRICTS:** Crops not by any means good; first the drought, and then the continued rain in July and August, accompanied by violent storms, did great damage. Wheat and rye only about half a crop. Oats a very middling yield. Feeding-stuffs poor yield, and hay is dear. Potatoes very moderate yield, and those grown are very much diseased, so that the crop is only half a one; indeed, early potatoes gave only one-third of an average. Such is the scarcity of this article that the rate of carriage is reduced to a mere mite per cwt., nearly the twelfth part of three farthings per German mile ($4\frac{1}{2}$ English ones) on the State railways, and the Government have recommended private companies to follow the said humane example. **WESTPHALIA DISTRICTS:** Crops not satisfactory; indeed, the importations must be drawn from other better-situated districts per rail.

N.B.—Taking into consideration that Galicia, Moravia, and Hungary will no doubt ship *via* Stettin, and although the central Rhenish and southern districts require much aid from the more favoured ones; yet we think that 1,500,000 qrs. of wheat and flour will be about the quantity that may be exported from Germany. Last year we put down the probable exportation at 1,250,000 qrs., which proves to be near the mark, as the quantity exported in the campaign from 1st September, 1869, till 1st September, 1870, was 1,342,268 qrs. of wheat and flour.

DENMARK.—Usual breadth sown under good auspices; got through the winter well; but having partly suffered from rain, the condition in such cases is not satisfactory, and here and there sprout is prevalent in wheat, which is not a full average; the weight varies from 56 lbs. to 65 lbs. Barley a good crop in every respect, weight on the average 53 lbs. to 54 lbs. Oats rather under average in every respect.

NORWAY.—Usual breadth sown under good auspices; got well through the winter, except in some parts, which suffered

from the severe frost without snow. The crops in general are a moderate average; quality very fine. Barley in particular is of a very fine bright colour and heavy weight—say, 53 lbs. to 55 lbs. Rye 56 lbs. to 58 lbs. Oats 37 lbs. Potatoes, excellent crop and no disease.

SWEDEN.—Generally speaking, the crops are good. Wheat and rye, quantity, quality, and condition satisfactory, wheat weighing 59 lbs. to 62 lbs., Rye 56 lbs. to 62 lbs. Oats a full average, fine quality, and weight 37 lbs. to 40 lbs. Only in some districts this article has been housed damp, and therefore not so fine in colour and condition as the greater part of the crops. Barley also is here and there secured somewhat damp. Potatoes an average. Hay below an average.

N.B.—Scandinavia has again been blessed with good crops; those of Denmark are not quite so good as last season. We fancy that Sweden will export the same quantity of oats, and Denmark the same quantity of wheat as last year.

RUSSIA.—In the Southern Governments the crops in point of quantity are very large; but the quality is not altogether satisfactory, the rain set in during the cutting, retarding the same, and somewhat deteriorating the condition, colour, and weight of at least one-third of the crop. Rye and spring corn middling. In the South-eastern Governments the yield is not so large (having suffered from frost in winter and hail in summer), nor the quality better than in the southern districts. In the Caucasus Government the quality, condition, and weight are good, but the yield less abundant. In the East-south-eastern Government the crops were secured in pretty fair order, and before the rainy weather set in. The Western Government's crops are deficient, having suffered from rain: those in the Central Government fall short of an average. In Russian Poland the crops are good, in the Western districts they have seldom been much better; the Eastern districts not so good; in the Northern ones tolerably good. In the Southern, spring crops suffered from adverse weather. In Northern Russia the worst crops are to be found, most of the winter-sown grain had to be ploughed up, and re-sown with spring corn, which cereals also have not yielded well, owing to drought. In the Baltic provinces usual breadth sown with winter grain under good auspices, wintered well; nearly the usual breadth of land was favourably sown with spring corn. The cultivation of flax is steadily on the increase, and the crops in general are good in every respect.

N.B.—We put down the probable export from Russia at 2,500,000 qrs. wheat, owing to the increased, and yearly increasing breadth of land sown with grain in southern, south-eastern, and east-south-eastern Russia.

AUSTRIA AND HER PROVINCES (GALLACIAN, BOHEMIAN, MORAVIAN, AND HUNGARIAN DISTRICTS): PROVINCE OF UPPER AUSTRIA.—The frost and hail did harm in some district; but, on the whole, the harvest is tolerably good. Wheat, better than last year, though here and there rust is to be found; the condition suffered somewhat from rain during harvest in some localities. Rye suffered much from frost, but in most of the districts yield and quality are good. Barley and oats suffered from drought, but the crop is tolerably fair in every respect. Potatoes, defective; hay and grass less than an average. **LOWER AUSTRIA:** Wheat and rye, very deficient yield. But quality pretty good. Oilseeds also defective. Potatoes and beet-roots short yield, having suffered from rain. **GALICIA:** If the crops are not brilliant they are not bad, they suffered to some extent from vermin; rats and mice appear to be constant customers in Galicia, this season they have come and gone three times. Wheat is a good average, quality very good, though in some unimportant districts smut is prevalent. Rye, not so good though not bad. Barley less grown, and it is thought that towards the end of the season an importation of this cereal will be wanted. Peas and Beans not satisfactory in any respect. Buckwheat a full crop. Potatoes not satisfactory, particularly in the low situated localities.

BOHEMIA.—Crops not satisfactory, suffered in summer from drought; wheat withstood the winter well and yet the yield is very middling. Rye is even more unsatisfactory. Spring corn suffered most. Barley, is half a crop. Oilseeds, not near by the crop expected. Potatoes, tolerably good. Hay, partly damaged. **MORAVIA:** Wheat only a very moderate average. Rye, very satisfactory crop. Barley, also good yield, the only fault being rather dark in colour. Oats, good average. Peas, middling yield; horse beans, fair yield; potatoes tolerably

good. **HUNGARY:** Up to the end of July or beginning of August everything promised well, so much so that the crops led to the full expectation of being among the best in point of quantity and quality grown during the last ten years in Hungary, wheat excepted, said cereal not being equal to the growth of 1869, less land being sown owing to the wet autumn of 1869, and the rainy weather which set in in August and September, and did much harm to the condition and quality of the grain not then secured. Wheat is nearly an average, quality various, and where it suffered from wet the weight is lighter by 8lb. Rye, seven-eighths average. Barley suffered from the wet weather, and is deficient 20 per cent. in the yield in every respect. Maize also suffered from rain, so that a great part is only fit for feeding purposes; in the districts of Banat, Bačka, and Syrmien is a good yield, but only about two-thirds of that is good quality, the other is only fit for feeding. Oats suffered in quality from the wet weather which affected the weight, condition, and colour, the latter being dark, but the yield is about an average. Potatoes, deficient, and in some districts diseased. Oilseeds, about an average.

N.B.—The official account in September gave the yield of the various cereals as follows: Out of 40 districts, wheat was good in 19, middling in 15, bad in 6; out of 52 reports received from various districts, rye was good in 21, middling in 17, and bad in 14; out of 46 reports received, barley was good in 20, middling in 14, bad in 12; and oats 33 good, 10 middling, and 3 bad. Feeding-stuffs, good. Oilseeds, about an average. Our own idea is, that Hungary will export about 1,250,000 qrs. wheat and flour.

TURKEY AND DANUBIAN DISTRICTS (MOLDAVIA, WALLACHIA): **TURKEY.**—Crops are not good, being under an average in quantity, quality, and weight. **DANUBIAN DISTRICTS:** The winter played hard on the seed, and in some districts hail and excessive rain did harm during the summer. In **MOLDAVIA** crops on the whole tolerably satisfactory. **WALLACHIA:** With the exception of maize (which is deficient 20 to 25 per cent. having suffered from hail and excessive rain in some districts), the crops are tolerably good in every respect.

N.B.—We put down the probable export of the Turkish dominions and Danubian Principalities, at not more than 600,000 qrs. Wheat.

SPAIN AND MEDITERRANEAN DISTRICTS.—**SPAIN:** Up to June 24 the crops, particularly barley, promised abundance, and it was expected that Spain would require little wheat and be able to spare some barley, but towards the end of that month, and early in July, locusts did some damage in the greater portion of the country, particularly in the southern provinces, so that in those districts the yield is very deficient, and Spain will require fully as much foreign help as last campaign of wheat. **PORTUGAL:** Crops very deficient, in some localities next to a failure, owing to excessive heat and drought. **ITALY:** Crops suffered first from drought and heat, then at harvest time from rain, so that the yield is defective. Wheat 25 per cent. below an average, and quality not satisfactory; the yield of beans and oats very small. Maize also a short yield.

N.B.—Spain, Portugal, and Italy will require fully the same foreign aid as last year, particularly the two former countries.

ALGERIA.—Crops pretty good of barley and wheat, but in the districts bordering on the desert the crops have suffered from locusts; few beans planted or grown this year, but more maize.

EGYPT.—Crops very satisfactory in every respect, in both Upper and Lower Egypt, owing to a larger breadth of land sown, and Old Father Nile having done his duty this year.

N.B.—Egypt will this campaign export about 250,000 qrs. wheat and 100,000 to 200,000 qrs. Beans.

AMERICA.—Considerably less breadth of land sown with wheat last fall and this spring; opinion varies as to quantity, some say 500,000 acres, others as much as 900,000 acres less, seed time was not over favourable, the winter was in many sections severe and protracted, with alternate frost and thaw in February; in others the winter was open, with sudden changes from warmth to extreme cold; in both cases this did considerable harm by killing out the wheat plant. The spring was late and cold, and less land sown with spring cereals. April was pretty favourable, but in May, June, and July the weather became dry and hot, which again did harm to the crops, particularly wheat, which suffered severely in the chief

wheat-growing districts (Western States), where the yield is reported at not more than two-thirds of the yield of 1869. At harvest time the quality and condition promised to be splendid, but as the saying goes, "there is many a slip between the cup and the lip," and so it was in this case, as heavy and long-continued rain set in soon after the wheat was cut and before it was stacked, and with such force that it penetrated the stacked (the straw being short-made it is difficult to stack so as to throw the water off), and the result is that much of this is badly damaged, damp and sprouted, whilst one-quarter being in the field was almost rendered useless. Rye and barley crops are about equal to last year's yield, namely, the former fine, the latter 20 per cent. below an average. Oats are better than might have been expected. Maize was damaged in many sections by frost, drought, heat, and vermin, but not to an extent to lessen the total yield, the more so as the land not sown with wheat was sown with maize; on the whole the maize crop is one of, if not the best. Buckwheat 10 per cent. below an average, owing to mildew. Hay and grass very deficient owing to the drought. Potatoes about an average, though this useful esculent suffered in some sections from drought and other causes, particularly the western States. **CANADA:** The want of rain in Upper and Lower Canada was very much felt; in June, particularly, the heat and drought did harm. Wheat is a short crop. Barley, tolerably fair. **CALIFORNIA:** Three per cent. more wheat sown, but the aggregate yield of wheat considerably, say about one-third, below an average; mildew and rust in many sections prevalent. Maize also short of an average. Barley, about an average. **CHILI:** Harvest very fair. **AUSTRALIA:** Crops deficient owing to drought.

N.B.—Considering the shortness of the yield in point of quantity, quality, and condition in the chief wheat-growing States, of spring corn and feeding stuffs, we fancy we shall not be going far wrong if we put down the probable export from America (Canada, California, Chili), and Australia, at 4,000,000 qrs., or 1,000,000 qrs. less than last campaign.

STOCKS.—In the seaports of Great Britain and Ireland, on the 1st September, were, with the exception of London, Liverpool, Hull, and Glasgow, light; and what is held at the above ports, particularly London, is of inferior quality. In France, Belgium, Holland, Germany, and Scandinavia, stocks were moderate on said date, and at the shipping ports in the United States, Russia, and the Danubian Principalities, they were by no means overwhelming.

RICE.—Crops promise to be similar to last year; for this article the opinion is good. The quantity imported into Europe, this year, amounts to 67,000 tons less than same time last year.

SEED TIME.—With the exception of Hungary and France, we have not heard that the autumn sowing has been effected under unfavourable auspices, the only complaint being, that it has been later and more protracted than usual. The British farmers have sown a much larger breadth of land with wheat this autumn. In Hungary, however, it was very unfavourable, it having rained without intermission three weeks and more. Neither have we heard as yet any complaints of importance as to the standing of the young plants. In France, in the districts not occupied by the Prussians, seed time has gone off well, but, of course, the damage done in the Alsace and Lorraine district is irretrievable this fall; we will hope that that unfortunate country may be favoured with a genial spring, so that what land has not been sown and trampled down in autumn, may be sown in spring under favourable circumstances.

PRICES.—**KÖNIGSBERG,** Dec. 13.—Weather winterly, and the navigation from here to Pillau may be considered closed, and particularly so for sailing vessels. High-mixed wheat, 58s. to 54s.; mixed ditto, 51s. to 52s.; red ditto, 50s. to 51s. per 500 lbs. Barley, feeding quality, 27s. per 448 lbs. Oats, 18s. 6d. per 386 lbs., and linseed, 50s. per 424 lbs. f.o.b.

DANZIG, Dec. 13.—Weather hard frost, shipments can only be made from fair water. Trade firm, and prices pointing upwards. 61 lbs. fine high-mixed wheat, 53s. 6d.; fine white 60 lbs. ditto, 53s.; good-mixed 59 lbs. ditto, 51s. 6d. per 496 lbs. f.o.b. per immediate and 1s. more per spring shipment. Rye according to quality, and weight, 36s. 6d. to 35s. 6d. per 480 lbs. Barley, large 53 lbs. malting, 29s. 6d.; small 49 lbs. feeding, 28s. 6d. per 448 lbs. Peas, fine white boilers 36s.

good white dry feeders, 34s. per 520 lbs. for immediate, and 6d. to 1s. more per spring shipment.

STETTIN, Dec. 16.—Winterly weather; the passage of our river is now impeded by ice. Market firm, 59 lbs. to 60 lbs. marks, 52s. per 504 lbs. 51 lbs. to 52 lbs. Oderbrück barley, 30s. 6d. per 448 lbs. 64 lbs. to 65 lbs. feeding peas, 37s.; boilers, 40s. per 520 lbs. f.o.b. per first open water in spring.

ANCLAM, WOLGAST, GRIEFSWOLD, DEMMIN, AND STRALSUND, Dec. 16.—Supplies moderate, demand lively for what is offered for sale. 60 lbs. wheat, 48s. per 500 lbs. 58 lbs. to 59 lbs. rye, 35s. per 480 lbs. 50 lbs. barley, 28s. per 432 lbs. 34 lbs. to 35 lbs. oats, 20s. per 320 lbs. Peas, 35s. per 520 lbs. free on board.

ROSTOCK, Dec. 17.—Navigation still free. We beg to remind our friends that our port is the last closed in winter and the first to open in spring, which is often of great value to parties who may wish to have their shipments off ere the gross of those from the Upper Baltic, &c., arrive. Supplies are very small, in spite of the approaching Term week, when Christmas accounts, servants' wages, rents, and interests on mortgaged estates must be met. The little offering is greedily snatched at

by our millers for home use, or by dealers for sending off per rail to the Rhenish provinces, Westphalia, Bremen, and Hamburg. Only two very small cargoes, consisting one of old and one half-old and half-new wheat, have been shipped this fall, and said cargoes went one to Holland and the other to Belgium, to which latter country a couple of small cargoes have been sold per spring, at 59-60 lbs. new wheat at equal to 55s. per 504 lbs. f.o.b. We note to-day our good average new wheat 52s. per prompt, and 54s. per spring, f.o.b. 504 lbs. 51-52 lbs. barley 28s. 6d. per 427 lbs. f.o.b.

WISMAR, Dec. 16.—Prices about the same as ours, probably somewhat cheaper.

HAMBURG, Dec. 16.—Market steady, chiefly for home wants, and now and then to complete a sale to Belgium, &c., there has been more doing in the so-called delivery wheat, at improved rates. Wheat, Holstein, 57-59 lbs., 51s. to 53s.; better grades, 60-61 lbs., 54s. to 55s.; Mecklenburgh, 59-60 lbs., ditto, 53s. to 55s.; Marks, 57-59 lbs., ditto, 52s.; and delivery wheat, per April-May, sellers' option, 55s. f.o.b. per 480 lbs. Barley, Saale, 52 lbs. to 53 lbs. Chevalier, 37s. 6d.; finest ditto, 42s., per 448 lbs. f.o.b. Oats, Mecklenburgh, 23s.; Holstein, 23s. 6d., per 424 lbs. f.o.b.

LINSEED, LINSEED CAKE, AND OIL TRADES.—ANNUAL REPORT.

TO THE EDITOR.

SIR,—We trust our Annual Circular will not lose its customary interest from the fact of our having so few fluctuations to call your attention to; the past year, like its predecessor, having been marked by no incidents calling for special notice, and in that respect being in strong contrast with some of those we have formerly had the pleasure of addressing you upon. The trade has been of a very steady character, and we trust fairly remunerative alike to importer and consumer. The distressing war raging between our Continental neighbours caused some monetary excitement in our markets, as it was thought, when first declared, that it might probably involve complications affecting the supply, but none such having arisen, business has relapsed into its ordinary channels, and the close of the present and prospect for the next season may be regarded with satisfaction by all whose interests are concerned in the trade.

LINSEED.—Early in January 56s. 6d. was paid for coast cargoes of Black Sea, and 59s.; for arrived Calcutta, it improved 6d. per quarter by the middle of the month, but was rather easier at its close. In February free arrivals put the value of the former to the lowest point of the year, say, 56s., at which several cargoes were placed, and Calcutta realised 59s. to 58s. 6d. We had an improvement to 57s. and 57s. 6d. for Black Sea in March, and 59s. to 59s. 6d. for Calcutta. April opened with steady market at same rates, but short supplies later on, improved the value to 60s. for Calcutta, and Black Sea in absence of arrivals was quoted nominally 58s. to 58s. 6d. In May, stocks being nearly cleared out, Calcutta advanced from 60s. to 61s. 6d., Black Sea 59s. to 59s. 6d. June ushered in a quiet market, but very soon the prospect of drought affecting the hay crop, caused a great desire on crushers' part, to supply themselves forward, and very large sales were made of Black Sea to be shipped at 60s. to 61s., and afterwards, dry weather continuing, 61s. 9d. and 62s. was paid, while spot Calcutta advanced to 63s. 6d. Rain falling at the end of the month, caused a quieter tone. Early in July there was a very dull trade, with lower prices, but subsequently renewed apprehensions of drought, and the possibility of political complications, gave an impetus to the market, and a large business was again transacted at 61s. 6d. to 62s. for Black Sea cargoes, while spot Calcutta sold at 64s., or the highest prices paid during the year. The market in August was influenced by the state of political affairs on the Continent, causing a fear of interruption of the oil export, and this, coupled with the rise in the bank rate of discount, soon brought prices down again, and by the end of the month, 59s. was accepted for Black Sea cargoes—spot Calcutta, owing to scarcity was not affected so much and sold at 63s. In September, in expectation of liberal supplies from India, a further decline took

place, 57s. was accepted for 10,000 qrs. Black Sea for shipment; but later on 6d. to 1s. advance was obtained for a considerable quantity. Spot Calcutta declined from 62s. 6d. to 61s. Free arrivals of Black Sea took place in October, and a good many cargoes changed hands at 57s., and afterwards 3d. to 6d. more paid. Calcutta receded to 59s. on the spot. In November very large supplies of Calcutta promised to send the value of this description down considerably; however, at this time, the fears entertained of a war with Russia caused a good inquiry and prevented the expected fall; a large speculative business ensued in Black Sea cargoes, for October and November shipments, at 59s. to 59s. 6d., and arrived Calcutta made same prices. The trade in the early part of December was quiet, 59s. was paid in a few instances for November bills lading, from the Azov; on the spot the inquiry was limited, and 57s. to 58s. was accepted for Black Sea ex steamer, and 58s. 6d. to 58s. 3d. for Calcutta. For the coast cargoes the demand was rather more active, and, aided by some continental orders, a clearance was effected at from 57s. to 58s. The quality of our imports this season has been satisfactory, Calcutta and Sea of Azov particularly so, the shipments from the Azov have generally commanded a preference over Odessa seed, which has not been so well liked. For next season's supply, taking into account the reports from the various districts, we have no reason to believe the quantity will be less than an average. Stocks in mills are about on a par with last year. The stock of seed in public warehouses here and afloat in the docks amounts to 55,000 qrs., at Liverpool 6,000 qrs., and at Hull there are 111,000 qrs., in addition to the quantity held by crushers, which is roughly estimated at 36,000 qrs. Afloat there is about 340,000 qrs., consisting of 125,000 qrs. East Indies, 190,000 qrs. Black Sea, and about 25,000 qrs. Mediterranean, Baltic, and sundries. Below are annexed the respective annual official returns of the aggregate imports into the United Kingdom:

	Qrs.		Qrs.
1859	1,270,911	1865	1,435,414
1860	1,330,623	1866	1,158,736
1861	1,160,270	1867	1,095,360
1862	1,088,472	1868	1,625,518
1863	1,104,578	1869	1,387,573
1864	1,434,973	1870	will be about 1,425,000

At Liverpool and Hull, the import has been in excess of last year; London has imported about same quantity. London has imported 353,446 qrs., consisting of 210,149 qrs. from East Indies, 42,262 qrs. Black Sea, 5,356 qrs. Mediterranean, 88,954 qrs. Baltic, and 6,725 qrs. Archangel. The re-export is again small, being about 33,000 qrs. The aggregate import into the United Kingdom is made up of 320,000 qrs. Calcutta and Bombay, 475,000 qrs. from St. Petersburg, 42,000 qrs.

from Archangel, 97,000 qrs. Riga (including 40,000 qrs. sowing seed), 75,000 qrs. from Memel, Königsberg, Dantzic, Pillan, and other Lower Baltic Ports, 315,000 qrs. from the Black Sea, and remainder Mediterranean and sundries. The Black Sea cargoes coming to direct ports, and calling at Falmouth for orders, consisted of about 323,650 qrs.; which were discharged as follows: Hull, 125,400 qrs.; London, 32,300 qrs.; Grimsby, 32,300 qrs.; Ipswich, 26,000 qrs.; Boston, 20,150 qrs.; Bristol, 18,750 qrs.; Gloucester, 11,250 qrs.; Lowestoft, 11,100 qrs.; Leith, 9,900 qrs.; Southampton, 4,450 qrs.; Rochester, 4,100 qrs.; Berwick, 2,400 qrs.; Stockton, 2,350 qrs.; Bridgewater, 1,900 qrs.; Lynn, 1,700 qrs.; and Newhaven, 1,600 qrs. 1,800 qrs. went to Holland; 1,900 qrs. to Belgium; and 4,300 qrs. to France. The direct exports from the north of Russia to the continent have included 84,000 qrs. from St. Petersburg; 43,000 qrs. from Archangel; 55,000 qrs. from Riga; and about 100,000 qrs. Memel, Königsberg, &c.; also some 33,000 qrs. sowing seed from Riga.

LINSEED OIL has, during the past year, shown very little of the fluctuations usually characterising this article. The home trade has been a very good one, and the export, although somewhat interfered with by the war on the Continent, during the summer months, has latterly been large, and will be found very little short of 1869. The value in the beginning of January was £29 10s. per ton, advancing to £30 5s. by the middle of the month, and after a slight decline closed firmly at £30 10s. to £30 15s. In February we had an improvement of £1 per ton, and during March £32 was paid, with a very steady home demand. In April £32 10s. to £32 were the values, and £32 to £31 10s. in May; during June and early July, these continued the spot quotations, but at the end of this month it receded to £31; afterwards a further fall occurred to £30 and £29 10s. in August, but the price rallied to £31 5s. by the end of September. In October £30 10s. to £29 10s. were the quotations, and £29 15s. to £30 10s. in November; £29 10s. to £30 have been accepted in December, and the market is to-day firm, at £30 to £30 5s. per ton.

MONTHLY PRICES OF LINSEED-OIL, 1870. — January, £29 10s. to £30 15s.; February, £31 to £32; March, £32; April, £32 10s. to £32; May, £32 to £31 10s.; June, £32 to £31 5s.; July, £31 15s. to £31; August, £30 10s. to £29 10s.; September, £29 10s. to £31 5s.; October, £30s. 10s. to £29 10s.; November, £29 15s. to £30 10s.; December, £29 10s. to £30.

The exportation during the past year will be found rather short of 1869. It amounts to about 31,000 tons in 1870, against 32,000 tons in 1869, 30,000 in 1868, 20,000 in 1867, 25,000 in 1866, 37,000 in 1865.

LINSEED CAKES have been in fair consumption throughout the year. The drought in the summer having so greatly affected the hay crops, was expected to have largely improved the demand for linseed cakes; but other feeding stuffs, more particularly maize, being relatively very cheap, have in a great measure counteracted the effects of it. Prime London-made cakes were quoted in January £11 to £11 10s. per ton, and continued about these rates until June, when a rise of 10s. per ton occurred; the value remained £11 10s. to £12 until August, when it was quoted £12 10s. This rise was maintained until the middle of September, when a decline of 10s. per ton was experienced, and the price has since been quoted £11 10s. to £12. Of foreign we have had a fair supply—say 160,000 tons of all kinds, into the United Kingdom. There has been a moderate inquiry only throughout the year. In January £10 10s. to £10 15s. was quoted for best American bags, and £11 to £11 5s. barrels. There was a fall of 10s. per ton by March, and afterwards an advance to £11 15s. and £12 respectively by July, and prices have since declined about 10s. per ton. To-day value of bags is £11 5s. and barrels £11 15s.

RAPESEED has been in very large supply from the East Indies, but the import has not proved more than sufficient for our wants, and although it was expected that the war between Prussia and France would tend to cause a fall in prices, owing to so large a quantity of seed on its way to Havre, having to come upon this market, values have improved considerably, and a fair proportion of our imports have found their way to Holland and Belgium, where the crops have been very deficient; some quantity has also been shipped to this country from the Danube, instead of going to Marseilles, and has sold at continuously improving rates, the early cargoes having made 62s. and recent shipments sold as high as 72s. The value of

ordinary brown Calcutta in January was quoted at 59s. 6d. to 60s. 6d., and improved 1s. per qr. in February, during March 61s. 6d. to 62s. 6d. was paid, and these were the values in April; in May it advanced to 64s., which was also the quotation in June; during July 64s. 6d. to 65s. was paid, but at its close prices gave way in view of the large quantity afloat, and the lower rates accepted for arrival, and 63s. to 62s. 6d. were the quotations in August. Early in September 1s. more was paid, but during the month 62s. to 61s. was accepted. In October an improvement took place, from 62s. to 64s. 6d., and a rise of another 1s. in November, and there has been a good demand the past month at 66s. to 67s. per qr. To-day 67s. is the value.

RAPE-OIL.—The home make has been very large; but small supplies of foreign, and the effect of the heavy stocks held in Paris being neutralised by the war, have given a quite unexpected impetus to the trade. The price of English brown advanced from £39 in January last to £44 in June. A reaction ensued after this, and a drop to £41 occurred by September, but £44 was again paid early in November, and £46 to £48 in December. To-day £47 5s. is the quotation.

RAPECAKES continue to be extensively used here, also to find a ready sale to the Continent. Values after January varied very little throughout the year. In January English-made, from East India seed, sold at £6 5s. to £6, in February and March £5 15s.; £5 7s. 6d. was accepted in April, but in May, June, and July £5 15s. was again the quotation. About £5 10s. was its price until October, and £5 15s. in November and December.

COTTONSEED.—The supply of this article will be found largely in excess of any previous year, the importation into the United Kingdom amounting to 125,000 tons. Notwithstanding the additional quantity, the consumption has proved so large that, except at Hull, stocks of old seed were quite cleared off by the end of October. Prices in the spring, with the prospect of a large import, looked likely to range low, but a considerable speculative inquiry soon dispelled this view. In March the lowest price of the year was touched, when £8 5s. was accepted, and then only in the case of two or three cargoes. The value in January was £9 5s. to £9 7s. 6d., February £9 5s. to £8 17s. 6d., March £8 12s. 6d. to £8 5s., April £8 12s. 6d. to £9 2s. 6d., May £9 2s. 6d. to £9 5s., June £9 5s. to £9 15s., July £9 10s., August £9 10s. to £9, September £8 15s. to £9 9s. 6d., October £9 2s. 6d. In November new seed by steamer made £9 15s. to £10, and £10 was paid for arrived parcels early in December, and £9 15s. to £9 10s. since. A fair amount of business has taken place in new seed at from £9 15s. to £9 10s. for October shipments, £9 7s. 6d. to £9 2s. 6d. November, £9 2s. 6d. to £9 December, and £9 January. To-day the spot value is £9 7s. 6d. per ton.

COTTON OIL.—We have nothing more to record of this article beyond a fair sale the first six months of the year, since when the export of refined oil to the Mediterranean has been much smaller than usual, and prices affected in consequence. The value of crude in January was £31 to £31 10s. per ton, £32 to £32 10s. in February, £32 to £31 10s. in March, £31 to £31 10s. in April, £31 in May, £30 15s. to £29 10s. in June, £29 5s. to £30 in July, £29 to £28 in August, £27 10s. in September, £29 in October, £28 to £26 in November, and £26 in December; while oil made from seed or 1870 crop has made £3 per ton above these values. To-day new oil is worth £28 per ton.

COTTON CAKES have continued to attract considerable demand, and, although the make has been very large, the mills in the autumn were quite bare of stocks, and the article has since been exceedingly scarce, and improving in value. The price in January was about £5 15s. to £5 7s. 6d. in February, £5 5s. to £5 10s. in March, about £5 10s. in April, in May £5 15s. to £6, in June £6 to £6 10s., July, August, and September £6 10s., October £6 15s., November £6 15s. to £7, and in December £7 5s. To-day £7 to £7 5s. is the value.

TALLOW.—The price of S.Y.C. in January was 46s. 6d. to 46s., and continued steady at same rates until end of March, when 45s. was accepted. 44s. 9d. to 44s. 6d. were the quotations in April and May, and in June and July 45s. 6d. to 46s.; it declined to 42s. 9d. by end of August; 44s. 6d. to 44s. 9d. was paid in September; the value slightly declined until December, when the same rates were again obtained.

EDWARDS, ASHTON, AND EDRIDGE.

London, Jan. 2.

LIVERPOOL WOOL TRADE.

THE ANNUAL REPORT.

The result of the past year with regard to wool—next to cotton the most important staple for textile fabrics in this country—may be summarized thus: Domestic wools, in average supply, have somewhat receded in value. Fine colonial, with greatly increased arrivals, but materially decreased exports, have suffered a considerable decline; whilst low foreign, with diminished imports, and an abnormal demand consequent upon orders for army clothing, have ruled very steadily, and of late, in many instances, experienced some advance upon the rates current a twelvemonth ago. Whatever progress the wool trade in general may have made during the first five or six months towards recovering the activity of former years, the war between France and Prussia has certainly, for the remainder of the year, materially interfered with this as with most other branches of commerce; still it is matter for congratulation that the consumptive power of our home trade has been equal to absorb enough of the increased supplies of the raw material, to prevent a greater decline in prices of all fine colonial and River Plate wools than has actually taken place.

If we refer to the Board of Trade returns available for the eleven months ending 30th November, 1870, we find an increase of nearly 12 millions of pounds in the imports of colonial wools over those for the same period of 1869, but a decrease of nearly 3 millions of pounds in those of foreign wools. The exports of colonial have been about 16½ millions of pounds less, and those of domestic wools about 3½ millions of pounds less than in the preceding year, whilst those of foreign have been pretty much the same as in 1869. The quantity left for home consumption is consequently, in 1870, about 29 millions of pounds more than in the previous year. To this must be added wool pulled from imported sheepskins, chiefly from the River Plate district, the arrivals of which at this port alone have been 13,556 bales during the past year, or nearly double the quantity imported in 1869, although, strange to say, we find no record of sheepskins under the imports in the Board of Trade returns.

The declared value of the exports of woollen yarns and woollen manufactures of all kinds for the eleven months of 1870 amounts to £24,529,074, against £26,544,688 for the same period of 1869, or about 8 per cent. less.

Now, assuming the yield of the Home Clip for 1870 to have been equal to that of former years (which, according to a paper recently read before the Statistical Society in London, taken as an average of the four years 1867 to 1870, amounts in round figures to 160 million lbs.), and considering that stocks of the raw material in the hands of consumers and dealers are admittedly very light—only importers of fine colonial wools holding rather more than the usual quantity at this time of the year—it appears to us beyond all doubt that the consumption of wool during 1870 has been on an unprecedentedly large scale, that more machinery than ever is profitably employed, and that the woollen trade altogether is decidedly in a most healthy state.

AUSTRALIAN AND CAPE WOOLS.—The imports from these colonies during the year 1870, despite the generally anticipated decrease, have, with the exception of cape wools, exceeded those of any previous year, and the quantities offered at auction have been from

	Bales.	Bales.
Feb. 17th to 5th March...	81,768, of which	24,965 were Cape.
April 7th to 12th May ...	164,277	16,855 "
June 16th to 27th July...	235,134	26,207 "
Oct. 27th to 29th Nov....	174,825	48,493 "

In all656,004including111,520 Cape.

An impression existing amongst the leading importers of colonial wools that it would be more beneficial both to the grower and importer to hold auctions more frequently during the year than had hitherto been the case, a resolution was come to at the end of '69, altering the arrangement of four series in favour of five. This was carried out, it will be seen, so far as the first six months are concerned; but as the bulk

of the Australian wools arrives before July, it became evident that, in order to better equalize the remainder of the year, only one more series of auctions should take place. The outbreak of the war at this juncture between France and Prussia naturally exercised a depressing influence on all fine wools, and it was, therefore, on every account, the best action that could be taken in the matter.

The position of this article at the commencement of last year was generally regarded as dull, but the impression extensively prevailing amongst importers, though not generally shared by manufacturers, that the effects of unprofitable returns to squatters for some time past, and the consequent boiling down of stock, would result in an important diminution in the receipts, made many hope for higher prices in the February auctions. Though this was not realized on the opening day, a better feeling manifested itself as the series progressed, and an advance of 1d. per lb. all round was established on the first day's prices. At the second series the large quantity offered, and the uncertainty as to the ultimate result of the various clips, had the effect of keeping prices only firm at the rate established in March, but as they progressed an improvement of about 5 per cent. was realised on the better kinds of combing descriptions. This rise was scarcely maintained at the opening of the third series, and although Capes still ruled firm at late rates, the short attendance of foreigners resulted in competition ruling easier for Australians. Up to this point the course of prices, all circumstances taken into account, may be said to have been as satisfactory as could have been expected, and events had so far borne testimony to the welcome fact that our home trade was recovering from the shock of 1866, and was sounder than had been the case for some time. That it should since then have lost so much of the ground it had with difficulty recovered, the unhappy struggle which still desolates two important manufacturing nations must be assigned as a reason. The declaration of war on the continent on the 15th July had the immediate effect of causing a drop of about 2d. per lb. on almost all prices; and although the series was brought to a close a few days earlier than had been intended, with large withdrawals during the week, no appreciable rally was experienced.

The last series of auctions, which did not begin until nearly three months after the war broke out, fully experienced its unfortunate influence; and though the home trade purchased freely, the Belgian and German buyers operated at first with great caution; the very reduced prices which were accepted, and the decision come to by some of the chief importers to hold over about 50,000 bales to the coming February series strengthened the market, but notwithstanding a slight improvement, all classes of Australians may be said to have closed fully 10-15 per cent. lower than in May, 1869. This was the most depressed series of fine wools since 1847, and the extremely moderate prices have caused a natural reaction in stimulating consumption, and prices have rallied somewhat since then.

The accounts from the colonies report an increase in quantity of wool, but about a month later, in consequence of heavy floods; for the latter reason a large proportion of the wool is expected to be shipped washed. The termination of this cruel war, which it is to be hoped is not far distant, would certainly exercise a beneficial result on prices, but the desolation and restricted resources of France and Germany will, for some time to come, tend to keep prices down, and we can at the most only look for a gradual recovery.

RIVER PLATE WOOLS show a decrease of imports, both in the aggregate to Europe as well as to England, as will be seen from the subjoined particulars.

	1870.	1869.	1868.	1867.	1866.
	Bales.	Bales.	Bales.	Bales.	Bales.
Belgium.....	135,586	115,359	141,398	94,057	82,664
France, about....	80,000	101,312	78,387	81,805	50,600
England, do.	12,000	14,093	16,369	16,495	15,818
Holland.....	1,578	747	.....	1,072	372

BUENOS AYRES.—According to the latest reliable information from Buenos Ayres, the actual result of the clip for 1870 shows a deficit of 22,000 bales on that of last year, and that the export thence should, notwithstanding, be in excess of those for 1869, is probably to be accounted for by the fact that a certain proportion of the '69 clip was retained on the other side in consequence of the very depressed state of the European markets. From Monte Video we are yet without precise information, though the decrease will probably turn out to have been in still greater proportion. The immense quantities of fine wools which have been shipped to England during the past year from the Colonies, and the extremely moderate rates ruling for them during the greater part of the year, have had a correspondingly depressing effect on all River Plate fine wools. A considerable quantity of Buenos Ayres and Monte Video wool has been shipped from France to England for safety since the outbreak of the war, and this has further tended to depress prices, especially as the new clip must now shortly be arriving. Santiago and Cordova wools have been in very short supply as compared with former years, and have, in sympathy with other coarse or low wools, met with some inquiry, and a rise of about 1d. per lb., has been established since the corresponding period of last year.

EAST INDIAN AND PERSIAN.—The arrivals during the year of 1870 have been considerably short of those of the previous year, showing a decrease of 27 per cent., but this is chiefly to be attributed to the short supply from Kurrachee where there is a falling off of 57 per cent. The usual quarterly auctions at which these wools are sold, have taken place here as follows, from

	Bales.
January 25th to February 3rd	12,410
April 26th to April 29th	10,373
July 26th to July 28th	8,008
October 26th to November 3rd	18,175

Total..... 48,966

against 65,480 bales in 1869, 58,541 bales in 1868, and 68,893 bales in 1867.

The course of this article has, on the whole, been satisfactory; and though the improvement which has lately been so manifest is attributable to an unusual state of affairs, to wit, the war now raging on the continent, still the permanent benefit which has been derived, inasmuch as stocks of long accumulation in dealers' hands have been cleared out, will be very great. Prices have fluctuated a little throughout the year. The January auctions were looked forward to with some interest, as the excessively small quantity of new imports gave hope of a rise in prices, very depressed since November, 1869. All classes opened firm, and hardened as the series progressed. A slightly easier tone was manifest at the second series, in consequence of the approach of the new clip of domestic, but values only declined on an average 0½d. per lb. The remaining two series occurring after the outbreak of the war, the effect was at once felt on all low wools, and East Indies participated in the general improvement, being specially adapted to the manufacture of army blankets.

PORTUGAL AND SPANISH FRONTIER WOOL, of which stocks were to a fair extent at the commencement of the year, show a remarkable decrease in arrivals, viz., about 30 per cent. less than in 1869, and the sales made throughout the year leave us almost quite bare of stocks. The clothing descriptions were much neglected until brought into play, through the army orders given out soon after the commencement of war on the continent, and prices have since stiffened slightly. Oporto combing fleeces well maintained their value of about 12d. per lb. until July and August, when in sympathy with ordinary English wools the demand had so fallen off that as low as 10½d. had to be accepted to make sales; but they soon regained this decline, and have gradually risen to 12½d. per lb.; the lower qualities have throughout met with a steady demand, and are now rather dearer than twelve months ago.

PERUVIAN WOOLS.—The inquiry for this class up to the month of September was only dragging, but since that period, in consequence of the contracts for military cloths, &c., a large business has been done at enhanced rates; the sales have included 55,000 ballots, as well as some hundreds of ballots out of speculators' hands, leaving the market all but cleared. Lima wools, though prices, in sympathy with those for Peru-

vians, have lately experienced an advance, the low rates ruling for colonial wools with which this class comes into competition, have naturally prevented it being to the same extent.

RUSSIAN WOOLS, as usual, have not been sent to this port, and stocks in London, &c., are at present exceptionally light. The home trade has not on the whole shown a very active inquiry for this class until within the last few months, but as the bulk of the production has again been taken direct for the United States, little or nothing remains unsold of this season's fair combing Black Sea wools. The present value is about the same as last January, having receded gradually at first about 5 per cent., which decline has been fully regained.

EGYPTIAN AND MEDITERRANEAN WOOLS have not arrived to the same extent as in 1869; of the former, a large proportion has been low skin wool, which, as well as fleece, have moved off at prices fairly in proportion to the value of English and common foreign descriptions lately, of course, participating in the general rise on all low wools suitable for army purposes, and very little remains unsold. Not much good Turkey fleece has come to hand, and the best parcels have been taken for America in the second half of the year, at about 11d. per lb. or a prime article.

BARBARY WOOLS show a decrease of import, only 4,263 bales having arrived at this port. Consumers have shown no desire to use this class, though a useful one, at the prices asked for unwashed, which were much above their comparative value, and yet promised at no time during the year a profit to importers; stocks remain, therefore, considerable. Good selected washed wools have, however, met with fair inquiry, and little, if any, remain in first hands, the value having ruled a shade higher than at the close of 1869.

IRELAND WOOL has closely followed the course of the domestic wool market, a quiet demand having taken off all the arrivals, only very slightly exceeding those of last year, and the value of good lots is somewhat higher than it was a year ago.

The imports of **MOHAIR** show a remarkable falling off—about one-half—compared with the preceding year; but, chiefly on account of the unfortunate state of affairs on the continent, a good deal remains in importers' hands. As no old stocks of fair average existed at the commencement of the year, the season's purchases opened briskly, and large contracts to arrive raised the value to 4s. 1d. per lb., but for the last six months almost no transactions can be recorded, a couple of hundred bales at 3s. 3d. per lb.—the price which would now be accepted by holders—embracing the bulk of the business done.

ALPACA has come to this port to the extent of 27,572 ballots, and stocks at the commencement of January, 1870, amounted to about 18,500 ballots, but, with the exception of the months of July and August, when the state of affairs generally was the gloomiest, sales to a fair extent were made every month, and stocks at present are only about 5,000 ballots. Prices made at the beginning of the year were 2s. to 2s. 4d., and the best classes reached their highest point in June and July, when 2s. 9d. and 2s. 8d. were paid for Arequipa wool. In September 2s. 7d. was paid for Arequipa quality, and last sales were 2s. 8d., but 2s. 8½d. has since been offered and refused, whilst Tacna qualities realized 2s. 5½d.

DOMESTIC WOOLS.—During the first few months of the year, the same sluggish demand which prevailed at the close of 1869 continued to be the chief characteristic of the English wool markets, and by the end of March a decline of about 1d. per lb. on December rates was to be noticed. There was a recovery at clip time, and it was a noteworthy fact prices stood identically at the same point as at the corresponding date of 1869, but this advance was again soon lost, and by the end of June a drop of 5 per cent. had occurred upon the opening prices at the country fairs. The panic which ensued at the declaration of war between France and Prussia, on the 15th July, had the immediate effect of causing a decline of 2d. per lb. on most descriptions, good lustre sorts suffering least; but as the first shock subsided, the ground lost was soon regained. All through the autumn months a steady inquiry for home consumption has occasioned a slow but gradual advance on both combing and clothing descriptions, and we close the year with an average depreciation in value, as compared with corresponding date of last year, of barely 1d. per lb.

SHEEPSKINS from the River Plate have been in large sup-

ply during the past year, the quantity imported direct, together with parcels transferred from France to this port, exceeding those of last year by 95 per cent. With the exception of the imports of the early portion of the year, the selection has been exceedingly poor, being, in some measure, the rejections of American buyers for the States. The demand, however, has been steady, notwithstanding the large increase in supply, and this has also been aided by the export inquiry till October for the States for anything at all good. The continuing increased favour which the pulled wools receive in this country, leave no doubt as to the outlet for any importations, but prices will always be regulated by those current for colonial wool, with which the wool off the skins comes into competition.

Liverpool, Jan. 7, 1871. R. W. RONALD AND SONS.

REVIEW OF THE CHEESE MARKETS FOR 1870.

The beginning of last year was marked by some improvement in the demand for American cheese, and 74s. was realised for choice qualities. For a short time there was also rather more inquiry for Cheshire, but in the course of a month trade became dull, and stocks began to accumulate. As spring approached, however, the quantity of English cheese had much decreased and very little of a moderate-priced sort was left in the market. Fine American were also getting into a small compass, 75s. to 76s. being obtainable for the very best. The trade then became (for a time) quiet for all descriptions. Fine American continued scarce, but West country and other sorts were comparatively plentiful. The market again resumed a more cheerful tone for a brief period; and towards the middle of May English cheese was taken more freely at moderate rates, American becoming more scarce, with prices ranging from 78s. to 80s. In the course of another month the weather became warm and dry, cheese went out of condition, buyers were naturally cautious, and trade, from a variety of causes, was very dull. New cheese of common descriptions was plentiful towards the end of June, but the partial failure of the hay harvest limited the usual demand in the country districts. Old Cheshire was in good supply, and new American came in freely, much of it poor in quality. As the summer progressed considerable disappointment was experienced in the sale of old Cheshire, principally owing to the extreme heat of the weather. There was a continuance of drought in the western counties of England, but in Cheshire there were occasional rains, giving promise of a fair make in that district. Autumn having fairly set in, there was a slightly better demand during the time of wheat harvest, and with increased supplies there was altogether a better trade. Extensive sales of Dutch cheese for French account, then stimulated a general inquiry, under the impression that other sorts might also be wanted for the same destination. The market was good, and American brought 66s. to 68s. The stocks of this description, however, becoming larger, and the flavour generally being strong (owing to the hot weather in which the cheese were made), prices declined, except for choice and clean-flavoured dairies. Towards the end of October American somewhat improved in price, though supplies were pretty good, and rates advanced to 72s. for the best. A demand for France being then anticipated, and which was ultimately realised, the market was cleared of a large quantity of medium descriptions of American. This had an effect on English cheese, and large purchases were made of the lower priced sorts. Really fine American, being rather scarce, were freely taken for Christmas trade as we came near to that season, and high rates were also realised for both Cheshire and Cheddar cheese of first-rate quality. Scotch and Swedish cheese have sold very well throughout the year at moderate rates. Medium qualities of Cheshire cheese are now in fair, but not large, stock at 60s. to 65s. Fine lumps are saleable at 68s. to 72s., and really fine full-sized at 78s. to 84s. The finest American are held firmly; prices to-day 74s. to 76s., medium qualities 60s. to 66s. Considering the dry weather which generally prevailed during the greater part of the summer and autumn we cannot anticipate a liberal supply of cheese, nor do we, as yet, look for lower prices. The prohibition of the export of butter from France may also exercise some influence on the price of cheese. The imports of American cheese for 1870 amount to 1,082,878 boxes against 881,307 boxes in 1869, showing an increase of 201,571 boxes.—CORDEROY AND CO., Tooley Street, Jan. 2.

THE EDINBURGH FAT CATTLE SHOW.

The fourth annual show of the Edinburgh Christmas Club is said to be the most successful exhibition which has yet been held under the auspices of the Club. The president is the Duke of Buccleuch, and the vice-presidents are the Marquis of Tweeddale, the Earl of Southesk, Lord Kinnaird, and Sir William Stirling Maxwell, Bart.; while the committee consists of some of the most eminent agriculturists in Scotland.

PRIZE LIST.

CATTLE.

SHORTHORNS.

Oxen, not exceeding three years.—First prize, G. Mills, Horsburgh Castle; second, T. Knowles, Newmarket, Aberdeen.

Oxen, exceeding three years.—First prize, W. Drysdale, Kilrie, Kinghorn; second, T. Elliot, Hindhope, Jedburgh. Commended, W. Ritchie, Spott, Dunbar.

POLLED.

Polled Angus, Galloway, or Aberdeen oxen, not exceeding four years.—First prize, 5 ga. cup, J. and W. Martin, Aberdeen; second, W. Drysdale. Commended, R. H. Harris, Earnhill, Forres.

CROSSES.

Oxen, not exceeding three years old.—First prize, J. and W. Martin; second, A. Cowie, Crombly Bank, Ellon. Highly commended, W. Scott, Glendronach, Huntly.

Oxen, exceeding three years.—First prize, Mr. Swan's 230 cup, Mr. Hardon's 5 ga. cup, and Mr. Club's 5 ga. cup, G. Shand, Ordans, Boyndie, Banff; second, J. Wallace, Banbath, Leven. Highly commended, J. and W. Martin. Commended, W. Drysdale.

HIGHLANDS.

Oxen, age considered.—First prize, C. Lyall, Old Montrose, Montrose; second, Trustees of the late Jas. Dalgleish, Ardnamurchan. Highly commended, W. Drysdale. Commended, G. Stirling, Home Drummond.

Heifers, exceeding two but not over three years.—First prize, W. Drysdale; second, J. and W. Martin. Highly commended, P. Beattie, Dunnydeer, Inch. Commended, J. Fergusson, East Grange, Forres.

Heifers, exceeding three years.—First prize, D. Ainslie, Costerton, Blackshiels; second, J. Allan, Billiemains, Ayton. Commended, The Duke of Buccleuch.

Cows, pure or cross-bred.—First and second prizes, W. McCombie, M.P., Tillyfour. Highly commended, J. and W. Martin.

DAIRY COWS.

Shorthorn, or any cross.—First prize, J. Niven, Huntly-street, Edinburgh; second, W. Colthart, India-place, Edinburgh; third, W. Cooper, Broughton-street, Edinburgh.

Ayrshire.—First prize, J. Law, Lothian Burn, Edinburgh; second and third, P. Ogg, Rose-street, Edinburgh.

SHEEP.

Cheviots, under twenty-three months.—First and second prizes, J. H. Durie, Barney mains, Haddington. Commended, J. McGill, Rotchell, Dumfries.

Cheviots, above twenty-three months.—First prize, T. Elliott, Hindhope, Jedburgh; second, W. Sanderson, Blyth Bank, Corstorphine. Commended: J. McGill, Rotchell, Dumfries.

Blackfaced.—First prize, Lord Crawford, Dunecht; second, Lord Strathmore, Glaimis Castle. Highly commended, A. Middleton, Kittybrewster, Aberdeen. Commended, C. Macpherson Campbell, Ballimore House, Tigh-na-bruaich.

CROSSES.

First cross out of Scotch blackfaced ewes.—First prize, T. Biggar, Chapelton, Dalbeattie; second, J. Allan, Billiemains, Ayton.

Any other cross, under twenty-three months.—First prize, G. Rutherford, Printonan, Coldstream; second, J. Skirving, Luffness Mains. Highly commended, R. Haldane, Fairdale, Selkirk.

EXTRA STOCK.

Pen of sheep.—Commended, L. Dalgleish, West Grange, Culroos; Trustees of the late J. Dalgleish of Ardnamurchan.

Pigs, not exceeding twelve months.—First prize, A. Leslie, Morningside; second, J. H. Dickson, Saughton Mains.

Pigs, exceeding twelve months.—First prize, A. Leslie; second, J. L. Gow, Raith.

Pigs, over eighteen months.—First and second prizes, A. Leslie; third, J. H. Dickson.

A TENANT-RIGHT STORY.

At the dinner of the Mortimer's Cross Agricultural Improvement Society Mr. C. NOTT said he was very pleased to hear the remarks of the Chairman, as also those by Mr. Bach, with regard to the rabbit question. Twelve months ago that question was a household word. Go into whatever company one would it was certain to be brought forward. It was at Leintwardine, he believed, that the subject was first broached. He trusted that nothing was then said to give offence; but the landed proprietors were there appealed to to take this great rabbit grievance into consideration, and he was proud to be able to announce that those gentlemen had been pleased to give their favourable consideration to the matter, and, as a consequence, there was now a better feeling existing in that part of the country. He had held conversation with several gentlemen who were present at the meeting referred to, and they had told him that a great and marked change for the better had taken place during the past seven or eight months, as they might now go out every night without seeing a single rabbit, where before they might have been seen in thousands. And if the landed proprietors thus granted their requests and met them thus straightforwardly, he thought it behoved the farmers to act, on their part, in like manner. He knew it for a fact that there were fields of turnips now to be seen both in Salop and Herefordshire second to none, which twelve months ago were almost completely destroyed by those vermin, the rabbits. If proof of this were needed, he might mention that one gentleman, a member of the Brampton Brian Society, had this year been so fortunate as to carry off a silver cup, value five guineas, for the best crop; and this proved what he had said, that if the landlord would give them the rabbits—the vermin, as he called them—the tenants would be able to farm right up to the cover-side. By the change which had been brought about the farmers were in a measure satisfied; but there were certain gentlemen who had not yet given the matter their consideration as they ought to have done, though he hoped they would follow the example which had been set them by those proprietors to whom he had alluded, and that speedily. With regard to the question of Tenant Right he held that that was a question which they were perfectly justified in bringing forward on an occasion like the present. They were justified in asking for this, and that the request was deserving of the attention of the landed proprietors. Some of those gentlemen knew something about farming; others knew nothing of it. For his own part he could wish that all were thoroughly practical farmers, as then they would know when they had got a good tenant. But it was useless to stand up there and talk of their grievances unless they could give facts, and he begged to instance one which was undeniable, and he did so fearless of contradiction. He knew a young man who, some six years ago, entered upon a farm. The farm was in a very bad state of cultivation when he took to it: in fact, he had had it described by one of the family as a wilderness, and as being in a very filthy state. Moreover, it had been very much neglected, but the young man to whom he referred, being a spirited young fellow, and belonging to a family renowned as amongst the best agriculturists in the Midland Counties, spent his money upon that farm, and after some five or six years' occupation brought it into a creditable state of cultivation; having done this he naturally thought that the tables would begin to turn, and looked to reap a tolerably good return for his outlay, and only last year expended something like £300 in artificial manures and artificial food for his stock; when lo! to his great surprise, after what he had done, he received six months' notice to quit! Greatly astonished, he went to his landlord and asked him whether he really meant the notice to stand, and whether he was tired of him as a tenant. The landlord said "No," but that the farm was in a good state of cultivation, and that he wanted to realize! "Well, sir," said the tenant, "I hope you will make me some compensation, for I have been at great expense, and I cannot afford to sacrifice what I have laid out on the land." "Oh," replied the landlord, his liberality and sense of justice showing itself, "that is another question; that was your own look out!" (Shame). He (the speaker) did not see that it was that young man's own look out, and he did not think that that was the way he should have been treated. However, he had to go, and he went, leaving behind him £300 of unsecured property on the farm.

The landlord was now about to "realize," and at whose expense? Why, at the expense of the tenant! (Shame). Were they right, then, or wrong, in asking for a Tenant-Right? The young man he referred to was thrown upon the world. He had character it was true; but how was he to regain the property which he had left behind him? He threw this in the teeth of landed proprietors who would condescend so to act to their tenants, and he was sure the meeting would agree with him that they were justified, when these things were taking place, in asking for the protection of a tenant-right.

WHAT THE TENANTS WANT.—Tenant-farmers know whether their rents have been increased during the last twenty years, and how often. We know one estate which has been twice re-surveyed to meet the extravagance of a member of the family, and after each survey the tenants have been informed that the value of their estates was increased, and they were invited to offer higher rents than they were previously paying, and most of them did so. We don't intend to say that there was anything wrong in these re-valuations, nor in the increase of rent, but they show that the increase of value goes into the landlord's pocket, and that while this growth in value is so constant as it is, the tenant-farmers may ask themselves what concern they have in helping the landlord to sling his lawful burthens off, and charge the State with tyranny in adding a small increase to his rates while he gets so large an increase in rent. What tenants want is justice from landlords in the form of security for their capital where they are tenants at will.—*The Western Times.*

THE TAXATION OF FARM HORSES.—At the Preston Epiphany Quarter Sessions, Mr. Wilson, officer of Excise, appealed, on behalf of the Commissioners of Inland Revenue, against the decision of Mr. Heelis and others, justices of Burnley, who, on the 31st of October last, excused Mr. James Hartley, farmer, of that place, from the payment of an assessed tax of 10s. 6d., upon a horse used by him. Messrs. Cobbett and Gorst, instructed by Mr. Twelley, clerk to the Inland Revenue of London, were counsel for the appellant; and Mr. John Addison was for the respondent. Mr. Cobbett stated that the respondent farmed 156 acres of land, and kept 50 cows and three horses. Besides the carrying on the ordinary business of a farmer, he employed a horse for the retailing of milk in Burnley, and the question was whether he was not bound to take out a licence for that horse, and pay the duty of 10s. 6d., the animal not being employed in husbandry. Mr. Addison said the milk was not hawked from door to door, but was simply delivered to the respondent's regular customers, and he argued that to dispose of the produce of the land, the milk in the manner he described, was just as much a part of husbandry as the actual tilling of the land. He was not carrying on the business of a dairyman, but was simply getting rid of his produce as a farmer, just as another might send his carrots or turnips to market. The milk was just as much the produce of the land as those products would be, and the horse was therefore employed in husbandry. He handed up two or three law reports to show that the judges in the superior courts had taken this view of the case. Mr. Gorst knew that the farmers in Harrow sent their milk to London, where horses were employed in retailing it, and those horses were taxed. If the respondent had sent his milk to Burnley in the gross, the horses carrying it would not then be taxed, but if he chose to retail it himself, then he was liable to the tax. The chairman (Mr. T. B. Addison) said it appeared to the Bench that the selling of the milk was part of the respondent's business as a husbandman. Therefore they agreed with the justices below, that the horse must be exempt from the tax. Mr. Cobbett asked for a case for the Court of Exchequer. It was a case in which the Crown was very much interested, because there were other parties who had paid the tax under similar circumstances. Mr. J. Addison: They won't get their money back from the Crown, we may be sure (laughter). He opposed the application, because he understood that his application for costs would be useless, the Court having no power to grant them, and if the respondent had to fight the case in the Court of Exchequer he would have to bear all his own expenses. The Chairman said he did not think there was any case for the Court of Exchequer to decide.

THE MIDLAND FARMERS' CLUB.

THE GAME LAWS.

At a special meeting of the Midland Farmers' Club, in Birmingham, Mr. W. Brewster in the chair—

Mr. F. ALLEYNE MCGEACHY said he took it for granted that the members of the Midland Farmers' Club must, of necessity, take a deep interest in the Game Laws. If he were to use the words which O'Connell was accustomed to address to his adherents in Ireland, "You must exert yourselves, if you are to be freed" from what many persons considered the great curse of game, it would seem almost indecorous on his part, and might be resented on theirs as a piece of advice he had no occasion or right to give. Yet every one who had paid much attention to the Game Law question, affecting, as it did, primarily the tenant, and virtually the whole nation, had constantly brought painfully before him the fact that in talking privately to a farmer he heard bitter complaints of the Game Laws, whereas a very poor response was probably given to his own denunciation of those laws when he met the same gentleman in public. It was constantly thrown in the teeth of gentlemen who were trying to remove what they thought to be the great evils which affected this country at the present moment, that they were trying to help those who apparently had no wish to be helped. Great hopes were entertained by himself and many other persons that, considering the point at which the interest on this question had arrived, there would have been during the past autumn further discussions upon the Game Laws, more particularly at the agricultural dinners held in various parts of the kingdom. At most of these dinners, however, comparatively few remarks were made on the subject, it being always stated that political questions were to be excluded; but those persons who found the Game Laws an inconvenient subject, as time goes on, must be pleased to remember that they themselves were the cause of the question taking such an advanced place in politics. At the meeting of the Club which he had the honour of attending in the spring, Mr. Lowe said he had been looking in vain for some argument upon the subject. Of course, if one could carry the public objects he had in view by logic and argument it would be an admirable thing; but if practical men could carry their object by what some thought to be neither logic nor argument, it would not make much difference. The progress of the Game Law reform had been very considerable during the past year, and it often seemed to be supposed that the agitation, as it was now called, about this question, was an entirely new thing, which might be very well left alone. Looking back at the effect of the Game Laws, it was clear that for some years past the country had not been content with those laws. Fifty years ago the same impatience was felt as now with reference to the Game Laws. For instance, towards the end of the French war, when it might be supposed that everything would be done to put the country in the best position for carrying on a foreign war to the greatest advantage by maintaining perfect peace and goodwill amongst the people, the statutes for preserving game were many and various, and not a little obscure and intricate, it being remarked that in one statute (5 Anne, c. 14) there was false grammar in no fewer than six places, besides other mistakes, the occasion of which, or what denomination of persons were probably the penners of those statutes, it was unnecessary to inquire. It might be generally sufficient to observe that the qualifications for killing game, as they were usually called, or more properly the exemptions from the penalties inflicted by the statute-law were—first, the having a freehold estate of £100 per annum, there being fifty times the property required to enable a man to kill a partridge as to vote for a knight of the shire. This was in the agony of the French war, when knights of the shire were running up the national debt to £800,000,000. Forty shilling freeholders voted for them, but a man required to be a £100 freeholder to dare to touch a partridge. For unqualified persons transgressing those laws by killing game, keeping engines for that purpose, or even having game in their custody, or for persons, however qualified,

who killed game, or had it in their possession at unreasonable times of the year, or unreasonable times of the day or night, on Sundays, or Christmas Day—and it was wonderful to see the religious element running in those laws before the repeal of the Tests and Corporations Act—there were various penalties assigned, corporal and pecuniary, by different statutes, on any one of which, but only on one at a time, the Justice might convict in a summary way; or in most of them prosecutions might be carried on at the Assizes, when it was worth remarking that, positively going back in respect to those vile laws, the old English squire was, at any rate, a gentleman who—though he was full of his own importance, as well he might be when he was able to lay 800 millions of debt on the country—did all he could to catch a poacher, and when caught, gave him a belly-full—all that he could. But he had a respect for himself. He knew nothing of accumulative penalties; he knew nothing of the vindictive vulgarity—if he might be allowed the expression—of the modern game preserver. He might be a brand-new peer, or a retired tradesman, or a financial agent who set to work to make a deer forest, he might have a notorious poacher for a game-keeper, who had his enemy tried upon two or three charges, and sentenced to two or three punishments; and going beyond the point at which English love of fair play would lead him to stop, by himself or his agent, took care that the Board of Inland Revenue should be compelled to proceed against the man for shooting without a licence. The magistrates, who were often indisposed to act, were then compelled to inflict desperately heavy penalties, which they had only power to reduce within certain limits, those limits leaving a heavy item remaining. When it was remembered that there were between 10,000 and 11,000 convictions a year, everything had clearly been done in the way of security, and, as a matter of common sense, it was time to change the existing system. Referring to a recent meeting of the Hertfordshire Chamber, he would quote the remarks of Mr. Cowper, the senior member for the county, who treated the subject in a great degree as a landlord and tenant's question. Though he avowed the evils of the present state of things, yet Mr. Cowper thought the Legislature should not act, and there appeared to be a great objection to the Legislature interfering in this question on the part of many gentlemen who saw no objection to interfering, for example, with the management of factories. Mr. Cowper further said, "he could not find words enough to condemn the landlord who let his tenants be overrun by ground game; if it was without compensation it amounted to a fraud." And if looked at fairly and dispassionately it was difficult to find a greater fraud in a moral, if not a legal sense, by persons using their powers so unjustly. Mr. Cowper added, "he was perfectly ready to consent to any measure which should give the tenant control over the ground game." That was, no doubt, very kind, but the real question was, Why was that never done before? After moralising on the matter Mr. Cowper further said the subject was one which in hands of ordinary capacity might be made dangerous; therefore, when the cloud, now of the size of a man's hand, became bigger, and when the people were determined to do away with the Game Laws, he advised the landlords, on no account to enter into a contest with them on the subject; but to let those laws go, and to retain as much of their political power as they could. He (Mr. McGeachy) believed the Game Laws were going, and would go, however much of political power might remain to the landowner. That must rest, under the new franchise, with the people of this country. Mr. Smith, the next member for Hertfordshire, said, at the same meeting, "they were one and all going to give up hares and rabbits"—a result which was, in a great measure, attributable to the discussions which had taken place in the county on the subject. The third member, Mr. Brand, thought the arguments of the Game Law repealers very weak, and were so thrashed out that they had been obliged to attack the Prince of Wales with reference to the

stimulation of tastes, not essential parts of a royal education, is a young man upon whom the future of this country mainly depended. It was stated, apparently on authority, that at the present time there were 18,000 acres of unlet land in Norfolk, and it was surmised by persons who knew that part of the country that men would not undertake to cultivate those farms, believing that ruin stared them in the face if they attempted to deal with them. As to pigeon shooting, *The Times* said upon the matches at Hurlingham House: "We think it high time such senseless, such cruel, and such costly amusements should be put down, not, indeed, by the law, but, what is above all law, the instinctive feeling which all true Englishmen (that was a direct attack upon his Royal Highness), and all lovers of legitimate sport have against practices which are alike brutishing, ruinous, and debasing, and which are revolting at once to the humanity and to the common sense of the community." The Game Laws were said to be a "bastard slip of the forest law," and those pigeon-shooting matches were exactly a "bastard slip of the Game Laws." They were an ingenious arrangement by which there should be no lack of amusement when particular birds could not be shot. Was that an occupation for a young man, who was likely to succeed to a throne which had been filled by Elizabeth and Cromwell? Was it for the good of the country, was it in the sense of loyalty, that such amusements should be permitted in the highest quarters? *The Times* now stated that of all the public questions which had been recently agitated, the Game Laws were probably the easiest—that the circumstances of modern trade, and the habits of modern society, had made it a simple question of money; every landed proprietor having both a crop land and game-rent, and the question being one between the tenant and the landlord. Conversations with, and letters from many gentlemen, showed distinctly that whether or not it was a question of money, it had done more than anything else to destroy the peace, the comfort, and the happiness of the families of the great tenantry of England. The question of making game property, as suggested by Mr. Brand, had been suddenly put forward, and it was a question on which it was very often difficult to give a satisfactory answer. He did not wish, therefore, to speak about it, without taking the opinion of wiser persons than himself, and could not do better than read a few lines written by a person who had given his attention to the subject for thirty years. He said, "No human being, from the poacher down to the game preserver, can realise the idea that wild creatures, wandering where they will, can be made anybody's property. The first and essential incident of property, the moral assent of the community to its being held as such, is wanting. Parliament dare not pass a law for making the taking of game a felony; that being the result of a proposal to make it property, and that would soon be found if any such change were to be proposed. The law protecting game as property could only be enforced under exceptional circumstances; that is, where a witness who saw the wild creature taken on the land, the ownership or occupation of which is supposed to confer the right of property, could be produced. These creatures cannot be identified. Even in the case of domestic poultry stealing, comparatively few convictions are obtained from the difficulty of identification; and to identify the game animals is simply impossible." Lord Leigh had given up hares and rabbits to his tenants; Lord Cowper had stated that he would never, under any circumstances, let the shooting over his land to strangers. But, if he was rightly informed, Lord Lichfield, who took great interest in agriculture, had let the shooting on a large extent of his property over the heads of the tenants. (A Voice: "That's quite true.") A mansion formerly occupied by the family had been let to a gentleman who did not desire the shooting, and it was considered desirable by his Lordship to assert his manorial rights, by which the shooting had been taken from the tenants, greatly to their annoyance and let to another tenant. Though it might be said that that was an attack upon a landlord, he could only reply that it was a matter of public interest. He had believed it to be a fact, and, if so, they had in their own experience two noblemen, deservedly respected, who in the matter of game adopted plans irreconcilable the one with the other. At the Elford Petty Sessions a person was convicted of shooting a pheasant, on the testimony of a gamekeeper, notwithstanding its being proved by the evidence of three witnesses that the defendant

was elsewhere at the time the bird was shot. The Game Laws had been condemned right and left by men who had the interests of the people at heart, and what they said was, "Abolish those laws." If, however, it was said that the land would be trespassed upon, and that protection was needed, there was Parliament, which had passed a few hundreds of Acts in favour of the Game Laws, and would be ready to pass an Act against trespass; but he contended nothing of the kind was required. A special meeting of the Edinburgh Chamber of Agriculture would be held on the 25th of this month, when an attempt would be made to compromise the question, and to pledge the Chamber to promote an arrangement in Parliament, which would go the length of giving up hares and rabbits. An expression of opinion by this Club would have some weight in preventing what he thought to be a mischievous and illusive compromise. He would conclude by reading the words of a great Scotch farmer, Mr. Riddell, of Elundale, by Tedborough, who told the Scotch Chamber, five years ago, the real truth of this matter. He said: "I feel thoroughly satisfied that this Chamber should aim at nothing short of the abolition of the Game Laws. I have no objection to petition for the amelioration of the farmers' grievances, but I protest against the Chamber having anything in view less than the total and unconditional repeal of those laws. The curse of the Game Laws at present lies in their insidiously entering into the relations between landlord and tenant, embittering the very profession of agriculture, and tempting landlords to proceed from one extremity of harsh legislature to another at the expense and to the moral pain of the whole community."

Mr. G. WISE argued that the question was simply one between landlord and tenant. With regard to the permission which Lord Leigh had given to his tenants to kill hares and rabbits, he might tell them what he had heard. A friend, who had every opportunity of knowing, had told him that the result was this—that there were no hares or rabbits left.

Mr. ROWBOTHAM proposed the following resolution: "That the Game Laws are demoralizing to the working classes, are injurious to agriculture, are the fertile source of heart-burning and ill-feeling throughout the rural districts, and ought to be repealed." The tenant-farmers of this country were indebted to Mr. McGeachy for the able manner in which he was fighting their battle to get rid of these pernicious Game Laws—laws which he in common with others who had the real interest of the tenant-farmers (in particular), and the general interests of the whole community at heart, had long seen, must be abolished, wholly and absolutely struck out of the Statute Book. It was not for him to insult their understanding by going through the long catalogue of losses and grievances under which the tenant-farmers suffered, and who had been so many times explained, that he thought no one of common honesty would now attempt to deny them; and if it was admitted that the tenant-farmers suffered loss, then their loss was a loss to the nation, which cannot be measured by what they suffered only, because where a farmer suffered, there was at least in some instances a disposition shown by some landlords to meet the tenant's loss in the shape of a reduction of rent. But did this make things smooth as between landlord and tenant? That disposition was only shown in a minority of cases. Did that meet the requirements of the case? He said decidedly "No!" The whole community had an interest and a right to expect that land let out for agricultural purposes should be devoted to those purposes alone. They should not let the crops which ought to be for the subsistence of the people and the profit of the tenant (who had paid a fair equivalent in the shape of rent and taxes of all kinds for the privilege of growing them) be eaten up by vermin, as they are in many instances to the great loss of the whole community. Does not every novice know that on estates where game is preserved there is not half the food raised that there otherwise might be. He did not wish to be mistaken, and thought that he wished it to be understood that the game eats half the produce. But he would say that the fact of the reserving of the right to preserve game on a farm is a deterring influence that prevents that amount of skill and capital being employed in the cultivation of the soil which was necessary for the full development of producing what the land, without that clog, would be capable of doing, up to quite 50 per cent. of the produce, and the game eats a good deal of the half that is raised, so he was convinced that he was quite right.

in saying that the preservation of game was the country's loss, where it was preserved to such an extent as to eat one half of the food that man is entitled to by the laws of Providence—but which is overruled by the class-made laws of man. There were several reasons why they were told they ought not to interfere with these laws, viz., that by doing so they interfered with the rights of property; 2nd, they interfered with the liberty of the subject; and 3rd, that they would, if they abolished the Game Laws, drive the country gentleman from their estates. One writer in *The Field* referred to our field sports as a training ground for our officers for the Army and Navy, and named both Wellington and Nelson as men fond of field sports. Upon each of these four heads he would express his opinion in a very few words. As to the rights of property his idea was that there was not that absolute right in any kind of property that was claimed, and that a man could not do what he liked with his own to that degree which some claim to have the right to do. If he was the owner of that house, in which they now were, his will might be to set it on fire and burn it down—doing what he liked with his own—but by so doing he should injure the neighbours' houses. Therefore the law very wisely does not allow any such absolute right; then, why should he be at liberty to keep vermin on his estate, which he knew would trespass and do injury to his neighbours, who did not keep any. Ah! said they, but if they strayed their neighbour could catch them on his own land; but those who used that form of argument did but mock us, knowing as they did that it cannot be done, nor the depredations of their vermin estimated; and if they could be estimated, those who have made the laws say, "We are not bound to pay for damages done, because you cannot prove it was my rabbits, or hares, or what not, that did it." Their remedy was, that if they find them on their land, to kill them, which, he maintained, was the strong man mocking the weak and helpless. With respect to the liberty of the subject, did not all laws, more or less, interfere with the liberty of the subject? They must not steal; they must not burn their own houses; they must not have bull-baiting, cock-fighting, prize-fighting; they must not get drunk and riotous; they must not do a hundred different things that some people would do, but for the laws preventing them and interfering with the liberty of the subject. There was only one way that he could understand this logic, and that was—those who cry out against any interference with the liberty of the subject were the very men who enact the laws which do so interfere; and that when they speak of the liberty of the subject, they clearly wish them to understand that they were above the pale of the law. A notable instance was the laws against gaming. To toss for a pint of ale in a beer-shop was gaming punishable under the law; to "make a book" and keep open a list for betting at a public-house was gaming; but to bet at Tattersall's or other places where the law-makers mostly congregate, and bet so that a dukedom, a marquise, or an earldom eventually got into the Bankruptcy Court, was not gaming under the statute! or if it was, the game was too high to fly at, because by so doing it would interfere with the big fish who swallowed the minnows, and therefore an interference with the liberty of the subject. As to driving the country gentlemen from their estates, so many by their follies go into voluntary exile that I did hope that a large majority of those who were left had sense enough to find, to feel there were other enjoyments attending a residence in the country for a few weeks or even months, that if game preserving were given up to-morrow, they would not feel that all was lost! But if it did follow that because the Game Laws were repealed, the country gentlemen would not visit their estates, but go to reside in town, all I can say was, if they could only stay in the country at the enormous loss of one half of the produce of their estates being sacrificed for the sake of their presence, the sooner they betake themselves to the towns the better, for they would find they were the losers in the end, and the country at large the gainers. The writer in the *Field* speaking of the training the field sports gave to our young men as fitting them for officers to lead armies or navies, he quite ignores the fact that when the Wellingtons and Nelsons, and men of that stamp took their training, sporting was a different thing—as compared with the present practice. When they were young men, shooting was preceded by hunting the game, and not only was it necessary to be a skilful marksman,

but the finding of the game was an health-giving employment, the enjoyment of which the modern system was entirely destitute. If as was done now the standing still and blazing away by the hour, having your gun loaded for you, and the game driven to you, was the sort of training our Game Laws were to be kept up for, all he could hope for was that the enemies of England would be as tame as the pheasants were, or the training would be at fault, and the country submit to a great evil for a very small return. One word with respect to an observation made by our worthy chairman about this time last year, when enumerating the benefits that had resulted from the discussions which had taken place at this Club, and the moderate tone that had prevailed on all occasions, except, perhaps, when the Game Laws were discussed, when people got beyond their depth. But even that he excused by saying that people who were bitten by game were very much in the same position as those who were bitten by a dog in a rabid state, likely to go mad. He, being one of the privileged ones, could not feel it like those who had been bitten. He enjoyed privileges beyond the common herd of tenant-farmers. His landlady's agent allowed him the privilege of scaring the birds off his corn with a pistol, loaded with powder only, on the very reasonable condition of only being careful into whose hands he trusted even such a weapon as that. They saw, therefore, that he had not any cause to complain.

Mr. R. PULLEN (Shackerley) seconded the resolution.

Mr. J. LOWE said that he was sure no one could feel more disappointed and distressed than himself that there should be in this country any one who should feel at liberty to preserve game to excess. When game was over-preserved, it became an abomination. He must oppose the resolution. He should like to ask the proposer of it, and Mr. McGeachy in particular, what would be the result of the abolition of the Game-laws? If these laws were abolished on the morrow, it would not prevent the landed proprietor making such terms with the tenant with respect to the preservation of game as he thought fit. The landlord would be just as much at liberty to make terms with his tenants if there were no Game-laws—he could make any terms his tenants were foolish enough to accept. If the Game-laws were abolished, they must have a stringent law of trespass. Was it desirable—did Mr. McGeachy desire it—that the common poacher should have liberty to go into the country and shoot, and that, if interfered with, he should be able to say, "Sir, you must not interfere with the liberty of the subject. The Game-laws are abolished, and the game is as much mine as yours." This was a "liberty of the subject" which would be rather inconvenient. He believed that the whole question from Mr. McGeachy's standpoint had been greatly overrated, for the landlords who over-preserved game were comparatively few. ("Oh, oh!" and a voice "Their name is legion.") He would repeat without any hesitation that, considering the number of landed proprietors, those who were over-preservers of game were comparatively few (No, no). Mr. Lowe then attributed the improvement which had taken place during the past twelve months, many landlords having made concessions to their tenants, or to the influence of opinion, which had been so generally expressed in the discussions which had taken place. He believed that, if they would only give it time, public opinion would have due and proper effect upon those landlords who were now over-preservers of game. He was opposed, and ever should be, to any violent change in the constitution of the laws (Hear, hear, and laughter). It was only fair and reasonable to look at the alternative before they ventured to remove a law from the statute book. He saw no objection to the question being compromised. It was rather the habit of the Legislature of this country to settle great questions by compromise; and he believed the majority of tenant-farmers would be perfectly satisfied if they would take out of the Game Laws hares and rabbits. He thought if they got rid of the ground game they would get all they wanted. But at the bottom of this subject was the great question—the arrangement between landlord and tenant. If farmers would be so careless and improvident as to go and take farms, knowing that the landlords were over-preservers of game, he did not think that they had a right to come out at the end of the chapter and complain that they were ruined (No, no, and a voice "Mr. Lowe is not a farmer"). He thought the resolution of Mr. Rowbotham was not calculated to produce in the

mind of liberal landlords and contented tenants that sympathy and co-operation which it was desirable should prevail. He did not think it would have the effect of inducing stubborn landlords to make concessions to their tenants, and he had certainly not heard from Mr. McGeachy, or any previous speaker, any good argument why the Legislature should abolish the Game Laws.

Mr. MAY (Elford Park) said the great thing was for them to ascertain what was the effect of the laws as they existed, as these laws concerned themselves. The question before them was one of very great importance; but they ought not to look at it from a one-sided point of view. He regretted that the landlords of the country had not settled the question among themselves before this. He was surprised that they had not done so. He was sure that the tenant-farmers would have been very much pleased if they had taken the matter up and settled it. He was sure that none of them wished to deprive their fellow-men of sport, so long as the pursuit of it did not inflict injury upon others. The question was this: How to make the sport compatible with the other interests of the country. Speaking as a farmer, he thought if shooting over farms could be divested of the injurious effects it now had, it should be done. He had an intense hatred of hares and rabbits. He did not believe that any man could farm properly if there were many upon his land. Mr. May, after alluding to the fact that some candidates, who were over-preservers of game, on the hustings actually spoke about cheap food for the people, went on to speak of the prizes which were offered at agricultural shows for the best-cultivated farms. Mr. Massey had offered a prize at the Wolverhampton Show for the best-cultivated farm; but there was not a man who could have a good farm so long as it was overrun with hares and rabbits. It sometimes happened that the gentlemen who offered these prizes for the best-cultivated farms were over-preservers of game. He did not feel inclined to go the length of the resolution which had been proposed. He thought one more moderate would be better.

Mr. BROWN (Sandhills) said the strong feeling which had found vent at the meetings of the Club with reference to the over-preservation of game was undoubtedly strong evidence of the great evils which resulted from the present system. Mr. McGeachy had told them that many land-owners of this country, influenced by the discussions which had taken place upon this subject, had made concessions to their tenants. They had a noble landlord in Warwickshire, who had done a very gracious act to his tenantry, but he did not like his name to be brought before the public. He could not agree with Mr. Rowbotham's resolution. What would they gain by the abolition of the Game Laws? ("Let us try it.") Mr. McGeachy had said something about the landlords exercising their power unjustly, but if they removed the Game Laws, the power of the landlord would remain, and he would then, as now, be in a position to use it, justly or unjustly, as it might suit his taste. Now, he was sure that Mr. McGeachy would not say that every estate should be thrown open to trespass; and if they had a Trespass Law

to supersede the present Game Laws, the landlord, as he had pointed out, would still be able to make terms with his tenants, the same as at the present time. In speaking of this subject he had two sections to deal with. He had those extreme men who would sweep away the Game Laws on the one hand, and on the other those who stuck up entirely for the rights of property, and who said that any innovation with respect to these laws was an interference with their rights. Now, he stood between the two. His opinions were somewhat moderate; and he thought Mr. Lowe's views were more in accordance with his own than those which had been expressed by any of the previous speakers. It was not a question of money or rent. There was no reduction in rent which could fairly compensate a farmer for the destruction which took place upon a farm when it was over-run with game; and he should have no objection to an alteration, so far as to put hares and rabbits out of the pale of the law. He would invade the rights of property so far as this, that it should be illegal in any agreement to reserve the hares and rabbits, and that if such an agreement were made it should be null and void. He would propose the following amendment: "That whilst this Club disapproves of the total abolition of the Game Laws, it is most anxious to record its opinion that the over-preservation of game is a most serious national evil, and that the sooner hares and rabbits are struck out of the Game Laws the better."

Mr. ROBERT MASEY said he thought Mr. Rowbotham's resolution would be productive of much mischief. He did not think that they had much to fear from wing game, but he agreed with Mr. Brawn that it would be well if hares and rabbits were taken out of the Game Laws. Mr. May had said that Englishmen were particularly fond of sport. Now he thought that they would be doing wrong if they did anything which would lead to do away with sport in this country. They had seen the effects of absenteeism in Ireland, and they did not wish to see the same thing extended to England. He believed if such a resolution as that proposed by Mr. Rowbotham were passed by the Legislature, farmers would be more severely handled by some landlords than at present. There was another point connected with the subject they had under discussion, which had not yet been alluded to, viz., the rating of property. He had spoken with Mr. Read, M.P., upon this point. Let them suppose there were two farms of equal value. The one let at 45s. per acre, and the other only at 30s., because the landlord over-preserved the game. He had asked whether they ought not to take notice of the 15s. per acre in the rating of the property. It was clear from this that every ratepayer suffered in a degree from the over-preservation of game. He would second the amendment proposed by Mr. Brawn.

The CHAIRMAN said he thought it would be a great evil to totally abolish the Game Laws. He was more in favour of the amendment than the resolution.

The amendment and resolution were then put to the meeting, and the former was carried by a majority of eight.

A vote of thanks was passed to Mr. McGeachy.

HOW TO HIRE AND HOW TO LET A FARM.

HOW TO HIRE A FARM, AND HOW TO LET ONE. Well done, Mr. Mechi!—*rem acu tetigisti!* For say what we will, do what we will, 'tis to this it must all come. How to hire and How to let a farm, which being duly interpreted goes the further to signify how to *live* in one. We may talk about the breeding of stock, the growth of crops, the manufacture of produce, or the case of the labourer, as it seems the Farmers' Club proposes to do during the ensuing year; but the others must hinge more or less on this one leading question. We may grow busy over local taxation, we may wax warm against the same evil, we may protest against the iniquities of certain traders and dealers, and we may co-operate with the view of being served on better terms. But these are merely incidental matters, subjects rather of secondary con-

sideration to that great starting-point in the race for existence, that first shot to be fired in the battle of life.

It is somewhat significant that Mr. Mechi puts the lower power in the foremost place. He speaks in the first instance of How to hire a farm, as indeed his text-word might fairly enough have stopped here. But, no doubt, he is especially desirous of reading the landlords a lesson, and so he goes on to show how they should let their land. Were not undue competition the awkward fact, it would appear on the face of it that what was good for the one was good for the other; but with the power almost altogether in his own hands the owner is too apt to dictate terms, which are not mutually advantageous, or to adhere to customs and covenants which have become practically obsolete. An ignorant or indifferent agent

is too often the drag-chain to any advancement, as he should be the shuttlecock of Mr. Mechi's May-day address. They should knock him about from one side to the other, alike disowned and sent flying by landlord and tenant.

How to hire a farm is at this very moment the great question before the country. The Tenant-Right principle is gathering strength in all directions, and yet it is curious to see how little in certain parts it seems to be understood. At a meeting in Oxfordshire only a day or two since, it was attempted to confine the claim chiefly to an allowance for oil-cake! At a meeting down in Devonshire any proposal to extend the system was opposed on the plea that its main feature was to lock up the fresh-comer's capital in payments for tillages and such like acts of husbandry! while "A Landlord," in Herefordshire, argues that Tenant-Right is in so many words Landlord's Wrong, and that out of it the farmer is enabled to ride a good horse, to entertain his friends with a "prize turkey" at Christmas, and to listen to his daughters' performances upon the piano! And why not? Would this liberal landlord have it provided that a tenant should not enjoy himself and should not educate his children even as highly as a tradesman, a lawyer, or a clergyman might do? This, we take it, is not the way to let a farm, as this so-called landlord would not promise to be much of a landlord after all; for Mr. Duckham threatens to unearth him when he says, "if I am right, which I believe I am, let him henceforth proceed with his peaceful calling, and for ever after refrain from villifying his fellow-man." Can Mr. Duckham really mean to imply that a landlord who has for the last month or two been persistently sneering at the best farmers in Herefordshire is in reality a clergyman? And even if this be his peaceful calling, surely it is very wrong to say so; for, as Mr. Sewell Read tells us, it is only some extraordinary fellow at a market ordinary who ever has the bad taste to declaim against "too much priestly influence."

It is clear enough then that in common parlance Mr. Mechi has his work cut out for him. When he proceeds to show how a man is to hire a farm, he must at the outset let it be thoroughly understood whether his ideal hero is to live or merely to exist. Of course in these days a man must be up to his business, and possess capital, intelligence, knowledge, and so forth. And thus provided, is it right or wrong that he should have a good horse to ride, call for a bottle of good wine occasionally if he so choose, or educate his daughters even as highly as the curate's family? That good kindly man the Herefordshire landlord ridicules the notion of a tenant-farmer ever aspiring to such a position, while he calls permanent improvements and unexhausted improvements "a confused jumble" or "a new phrase in the agricultural world." If this man be a landlord we should not care to be his tenant, and if he be a clergyman "there are many useful lessons," to use his own affectionate form of speech, which he might still study to advantage. But Mr. Mechi has his work cut out for him.

How to hire a farm—Not by that unwholesome system of tender, which is extending in places, as a practice we hear not altogether unknown in an adjacent county to Hereford—Gloucester to wit. How to hire a farm—Not without a certainty of a man's own means being secured to him. How to hire a farm—Not without a right to the rabbits and a stiff clause against the over-preservation of game. How to hire a farm—Not without a proviso, which supposing things should go wrong, would put the other creditors on as good a footing as the landlord; but here of course the interference of Parliament will be required to revise that monstrous law of

distress for rent. How to hire a farm—Not without a thorough knowledge of all the rates and taxes, as of how much the rent will be raised in the event of any more equitable adjustment of local taxation. How to hire a farm—Not with other people's money; not to do landlord's duties in the way of building or draining, without being properly paid for so doing. How to hire a farm—Not with any understanding that you are to vote blue, yellow, or harlequin, as the landlord pleases, at election times. How and when to hire a farm—When the principle of Tenant-Right has become generally acknowledged, when the first claim for rent has been abolished, when letting land by tender has been made an offence punishable at common law, and when the occupier's "privilege" to destroy rabbits and such like vermin is placed beyond dispute. Mr. Mechi, verily, has his work cut out for him.

And, again, How to let land on such terms as will enable a man to live in a condition something superior to that of his own labourers. Nothing is so easy in these days as to get a great rent. Any sharp solicitor from Chancery Lane or smart land-agent from Piccadilly, would no doubt undertake to put up the rental of an estate in less than no time. The more needy the applicant is, the less in fact that he has to lose, the more careless will he be as to what he gives. But this is not the way to let a farm. On the contrary, with such a choice before him, the landlord or agent should take only a tenant with character and means; as it is then, with fair terms of letting, that the interests of the two become more and more identical. The next thing clearly for the landlord to learn is How to give way; to throw up the frowy old covenants which can only impede the action of an enterprising tenant; to study less the wishes of his game-keeper, and to let his land in the country to a farmer on the same businesslike terms he would a house in London to a tradesman. This subject, as it stands on the new card of the Farmers' Club, strikes the very key-note of our march onwards. If the art of Agriculture is still to develop as it should do, any improvement must begin at the very hiring of the land.

THE FARMERS' CLUB.—The following subjects have been selected for discussion during the year 1871. February 6: English Cheese Factories—how to Establish and how to Manage them; proposed by Mr. J. Coleman, Park Nook, Quorndon, Derby. March 6: The Supply of English Cavalry Horses; Mr. E. Tattersall, Albert Gate, Knightsbridge. April 3: The Growth of Cabbage, and kindred Crops; Mr. Clement Cadle, Gloucester. May 1: How to Hire and how to Let a Farm; Mr. J. J. Mechi, Tiptree Hall, Kelvedon. November 6: The Agricultural Labourer—his Employment, Wages, and Education; Mr. C. S. Read, M.P., Honingham-Thorpe, Norwich. December 4: Breeding—Facts and Principles, Mr. J. K. Fowler, Prebendal Farm, Aylesbury.

CAUTION TO JUDGES.—The following letter has been addressed to a local journal: I was an exhibitor of sheep at the fat stock show, held at Carmarthen, and was rewarded by the judges with a "high commendation." On the card was also written, "Want of quality—too fat." Now, sir, every one who was present knows that, without exception, my sheep were the best in the yard. If they had no quality or were too fat why commend them at all? Such inconsistent treatment as this is but poor encouragement for any one to go such a distance, and I now challenge any person in the county of Carmarthen to show (before competent judges) better fat yearling sheep either in quantity or quality. John Williams, Caerceddy, Welsh St. Donatt's.

THE FRENCH PEASANT'S SEED FUND.

The following letter has been addressed by Lord Vernon, as chairman, to noblemen and leading country gentlemen in their several districts:

I have the honour to submit for your consideration some particulars of the benevolent purpose which it is desired to carry out by means of the committee in whose name I now write.

The progress of the war on the Continent has left the peasant farmers in many districts of France without the means of cultivating or sowing their land. The approaching period of spring sowing is an opportunity which by prompt and vigorous action may be seized to avert the famine that otherwise seems inevitable; the Committee are therefore desirous of collecting donations in seeds and money for this purpose from those whose interest in land, whether as owners or occupiers, naturally induces sympathy with the French farmers in this emergency. It appears unnecessary for me to urge the magnitude of the wants of the French peasant-farmers, as the newspapers have made every one acquainted with the subject; but I may remind you that the tract of country which has been laid waste has been estimated at probably not less than one-fifth of the cultivated area of France.

Application has already been made to the French and German authorities, through their representatives in England, to assist the committee in carrying out the objects they have in view.

Any donations entrusted to the committee will be utilized in such manner and at such a period as will best ensure their proper application in those districts of France where seeds are required, and to which they can be transported with the greatest safety.

I earnestly hope that you will feel yourself at liberty not only to support the Committee in forwarding the object they desire to carry out, but to use your influence amongst those resident in your neighbourhood in making the operations of the Committee known as widely as possible.

I am, your obedient servant, VERNON, Chairman.

NEWCASTLE FARMERS' CLUB.

At the annual meeting, the SECRETARY, Mr. H. Stephenson, said that he had received a circular relating to the "French Peasants' Seed Fund," appealing for donations of seeds, to aid the distressed French peasants. He thought it was perhaps intended that the Club should form a committee to collect subscriptions.

Mr. W. BELL (Harlow Hill) said he thought that those who went to war ought to meet all expenses themselves.

Mr. B. BELL (Newcastle): Is the circular sent to the Club to get a donation, or only to get machinery put in motion to get subscriptions?

The SECRETARY said he thought it was desired that the Club should get machinery in motion to gather aid.

Mr. B. BELL said the subject was worthy of their attention, and already it had called forth much sympathy in other parts of the country. He moved that the committee of the Club be recommended to consider the matter.

Mr. J. SHIELD seconded the resolution, and it was agreed to.

Mr. JOHN GREGORY said that perhaps there never was a time when the action and principle of ploughs were so much discussed as at the present time, and every new method of treating the soil, whether done by steam or horse-power, was looked upon as of the highest importance. The work they now done, and which some called perfection, was only the cutting of a solid slice; and one of the disadvantageous features of modern ploughing, doing more harm than good, was the leaving the furrow without a crack, and glazing the face of the furrow, and so stopping the breathing pores of the soil, and almost making it to be in such a condition that the atmosphere had no effect upon it, which was the very thing to be avoided. He thought a farmers' club like this could not have a more important subject brought before it; and perhaps some practical farmer would read a paper before the members on the question whether a solid or broken furrow left the land in the best condition for cultivation, and a discussion could follow. Perhaps Mr. Little, of Chester-le-Street, would prepare a paper on the subject. I think he would, I spoke to him about it.

The SECRETARY stated that papers had been arranged to be read at the February and March meetings.

It was resolved that the Secretary write to Mr. Little requesting him to read a paper at the April meeting on the subject mentioned by Mr. Gregory.

The SECRETARY read the following report of the committee: We, as your committee, have now the pleasing duty of laying before you the annual report, which proves the Club to be in a very satisfactory condition. The following statement shows our present position as to members: Members on the books in December, 1869, 267: elected during the year, 12; deceased, and struck out as defaulters, 18; resigned, but paid for this year, 11; present actual number of members, 250. We do not feel discouraged by this falling-off in numbers, as, by the treasurer's statement, you will observe that the subscriptions have been larger than during the preceding year, which is to be accounted for by the fact that a considerable number of names have been allowed to remain on the books after the gentlemen ceased to pay their subscriptions, and during the year all such names have been written off. In March last, Mr. Henderson favoured us with a paper on "The Prevention and Cure of Quarter-ill in Cattle," which contained many useful and practical remarks: the paper was printed and circulated among the members. We are happy to be able to inform you that Mr. George Hedley has kindly consented to give us a short paper after dinner, to-day, and that arrangements have been made for the months of February and March, of which due notice will be given. As contemplated in last year's report, we have thoroughly revised the library, by replacing missing volumes which were thought necessary, and completing and re-binding several agricultural journals. We purpose issuing a new catalogue as soon as possible; and, by keeping the library well stocked with new books and journals, make it more attractive than hitherto.

At the dinner, Mr. G. H. RAMSAY, the chairman, said that the French consul had applied to him to assist the French with money, corn, &c. He replied that the Club would not be behindhand in alleviating the distress of the French people, but that the time had not yet arrived, though he hoped it would not be long before they were called upon to do something in the way of furnishing seed and other things. He was glad to say the Club was prosperous.

FARMERS' CLUBS AND CHAMBERS OF AGRICULTURE.—At the annual dinner of the Newbury Chamber of Agriculture, the chairman, Mr. Wentworth, said the committee had thought it advisable to change the name of the Club to that of the Newbury Chamber of Agriculture, the idea being that it should not be confined to farmers only, but should also include magistrates and gentlemen of the county. The balance-sheet was not, however, of a very satisfactory character, the expenses having somewhat exceeded the amount of subscriptions; but if each member would only introduce another the financial difficulty would be entirely obviated. The heaviest item was that of £10, the fee paid to their analytical chemist, Professor Sibson; but that gentleman's valuable services could not be well dispensed with; and as a proof of the manner in which that feature of the club had been appreciated, he mentioned that during the past year thirty-five samples had been sent for analysis.

Many of the Chambers seem to be perishing through inanition, and the Central itself has not too much to come and go upon. Indeed, the appeals made every now and again rather indicate that what is designated the head department has not enough of 'the sinews of war' to carry on the fight in favour of farmers. And the country chambers find that they cannot afford to pay for analyses, although the price for the twelvemonths is not more than a £10 note. There is something wrong somewhere. Either the Central has failed in its government, or members of the local societies do not recognize the value of union, and are not sincere in their expressions about the efficacy of combination to redress the grievances of which they complain. We have a notion of our own. There was an 'old man of the sea' who sat upon adventurous sailors; perhaps his representative still bestraddles pioneers who plough the fields instead of the waves?" Some short time since, the Hungerford Farmers'

Club, as its neighbour at Newbury now has done, adopted the title of a Chamber; and the Hungerford Chamber of Agriculture, according to the last report, would appear to be in a moribund condition, although it flourished for many years as a Farmers' Club.—*The Farmer*.

An announcement that the Warwickshire Chamber of Agriculture will on Tuesday next, at Rugby, discuss the important question of Local Taxation together with the report of the proceedings of the meeting of the Midland Farmers' Club, last Thursday, raises the question of the comparative importance of these two great agricultural associations. On this subject we are inclined to the opinion expressed by the

Gardener's Chronicle, quoted in our special agricultural column, that Farmers' Clubs are, as a rule, more practical and useful than the Chambers of Agriculture. We are confirmed in this belief by the fact that one of the most flourishing and useful Farmers' Clubs in the kingdom, held at Hungerford, were the old Bath road begins to skirt the broad and historic downlands, has ceased to be popular since it became a Chamber of Agriculture. The name and constitution of these so-called Chambers apes the Chambers of Commerce in our great towns and commercial centres. The very name, Farmers' Clubs, is essentially English. The Chamber of Agriculture is hardly so national in its origin or in its name.—*The Leamington Courier*.

THE ROYAL AGRICULTURAL SOCIETY'S MEETING AT WOLVERHAMPTON.

THE FARM PRIZES.

At Wolverhampton the Prizes Sub-Committee of the Local Committee of the Royal Agricultural Show and a number of agents of landowners, tenant-farmers, and others, met Mr. Jenkins, the secretary to the Royal Agricultural Society, to discuss the terms of the prizes for the best cultivated farms.

Mr. R. H. Masfen was called to the chair, and introduced Mr. Jenkins to the meeting.

Mr. JENKINS said that they would most of them be aware that the Society had issued an advertisement in conjunction with certain landholders of Staffordshire and Shropshire. They were to offer two prizes for the best and second best arable and dairy farms, they must be situated in Shropshire or Staffordshire, that being the condition upon which the subscriptions for the prizes has been made. That the farms must be within the two counties was a fixed point which it was not for that meeting to disturb. Another fixed point was, the two first prizes were to be £100 each, and the two second prizes £50 each. The second prizes of £50 were given by the Society, who also took upon themselves all the expenses connected with the judging the farms and giving the prizes, which would be considerable. These points being fixed, he was deputed by the Council of the Royal Agricultural Society to take the views of the meeting upon the other points, and report them to the Council. The first point was the minimum size of the farms in each case that would be admitted into competition. Next, the distinction between an arable and dairy farm, the fixing of the amount of entrance fees, so as to shut out competitors who had little chance of success, and to decide whether the competition should be restricted to tenant-farmers, and, if so, to define what constituted a tenant-farmer, and say whether any one whose farm was partly constituted of his own land should be admitted.

Mr. KEARY said that since he had entered the room he had heard that the competition should, in the opinion of some, be confined to a certain area around Wolverhampton, but such an area must cut off odd parts of counties, which would be very inconvenient. The prizes, however, had been given upon the understanding that there should be an open competition of farmers in the counties of Staffordshire and Shropshire.

Mr. JENKINS pointed out that some towns would not give sufficient area for the purpose.

The CHAIRMAN said he was anxious, without having any feeling in the matter himself, to lay before the meeting the complaints of the Cheshire people, that though their county formed part of the area of the show, and was that part of it where dairy farming was more especially cultivated, yet they were excluded from a competition in which prizes were offered for the best cultivated dairy farms. He was anxious to show their Cheshire friends that there was no desire there to behave unfairly towards them, and to prevent any subsequent ill-feeling. They who were acting at Wolverhampton had had nothing to do with the matter: they did not find any portion of the money for the prizes, £200 of which was found by noblemen and gentlemen of Staffordshire and Shropshire; and it had been said that they who found the money had a right to prescribe the way in which it should be distributed as prizes, but when it was remembered that £200 formed but twenty-five per cent. of the total cost of the farm prizes to the Society, the Cheshire people might reasonably complain that the

Shropshire and Staffordshire people were putting their hands into an exchequer from which they had no better right to draw than the men of Cheshire. He should be glad to learn that the decision confining the competition to the two counties was not a settled question. The Earl of Lichfield had told him that it was not; and Mr. Randall had expressed to him his surprise at the terms of the advertisement. Still, they agreed with the minutes of the Council of the Society, but it was difficult to understand how the Council ever came to such a conclusion.

Mr. KEARY said that the money was subscribed for the two chief prizes upon the understanding that they were to be competed for by farmers of Staffordshire and Shropshire only.

The CHAIRMAN said that that being so, the question came how they were to reconcile the people of Cheshire to such a decision, and persuade them that at a show held for a large district embracing several counties, such prizes should be restricted for competition to the farmers of two counties only.

Mr. JENKINS said that the district of the show embraced North Wales, and if all of it was admitted to competition the task of testing the relative merits of the competitors for these prizes would be impracticable. With regard to the objections of the Cheshire people the propositions as they now stood were agreed upon at a meeting of the Council preceding that at which the instructions for advertising them was given. The proceedings of that prior meeting were reported in all the agricultural papers, so that if the Cheshire people had had any desire to add Cheshire to the counties named, they had had ample time to make known their desire to the Council of the Society. The whole of the scheme originated in Shropshire, and it was at first intended that the competition should be confined to Shropshire, but as the show was to be held in Staffordshire, the Society felt that Staffordshire ought to be included.

The CHAIRMAN remarked that Mr. Jenkins's explanation altered the case very considerably; and as it appeared that the Cheshire people had had an opportunity of which they had not availed themselves of urging their claims before the executive of the Society, he did not see that anything more could be said for them. As regarded the proposition for confining the competition to a radius, Earl Dartmouth suggested that it should be a radius of sixteen miles round Stafford.

It was however pointed out that the radius would take the competition into Derbyshire, which was not in the district of the show. After much had been said about the area of the competition, and many suggestions made as to the division of the prizes, the attention of the meeting was recalled to the facts that these were fixed points, and that it had yet to consider those which it laid before them.

The meeting then proceeded to consider what should be the minimum size of an arable farm to be entered for competition, and in discussing this question the meeting once more travelled into the region of the fixed points in discussing a suggestion of Mr. Turner, that as a large number of the Staffordshire farms were composed of stiff lands, they would have no chance against the lighter soils, especially if the summer were wet, for, be the farmer ever so skilful, the very appearance of his farm would tell against him. Mr. Turner was reminded, on the other hand, that if the summer were dry the advantage would all be with the stiff and against the light soil. Still there was much

favour in the meeting towards something being done to counter-balance the advantage which the nature of his ground gave to the light soil cultivator; and when it was found that "the fixed points" would not permit of an alteration of the present prizes, it was suggested that an additional £50, which Mr. Keary said would be forthcoming, should be supplemented by the Society, and made a special prize for stiff land farms. This being, for good and sufficient reasons, urged as impracticable, it was suggested that the amount should be given at the discretion of the judges to a stiff clay farm; but eventually it was agreed the amount should lie entirely with the discretion of the judges, who the meeting were ultimately satisfied would be able to do justice to such farms without any special terms of competitions, two of the successful farms at Oxford having been stiff land farms. The minimum for arable farms was fixed at 200 acres; that of dairy farms at 150 acres with 30 cows, and cultivated for dairy purposes: with the understanding that the milk might be sold off the farm. The next point considered was that of the entrance fees, and the meeting agreed at once that those of the arable farms should be as at Oxford, three guineas for non-members and two guineas for members of the Society; but it was suggested that in the case of dairy farms the amount should be one guinea for members and two guineas for non-members. On the other hand it was contended that those for the dairy farms should be the same as those for the arable farms, and upon a division the latter proposition was carried. The meeting next decided that the competition should be confined to tenant farmers, and in answer to the question, "What is a tenant farmer?" Mr. May said he was one, who got his living principally by farming; and the Chairman added, amidst laughter, "Or wishes to do." Eventually, after considerable discussion, it was decided that the qualifications of the competitor should be that he rented under another person at least two-thirds of his land, and that he had occupied it for at least two years, and that where the farmer occupied more than one farm he should not be at liberty to enter any one of his farms, but should be required to enter all that were situated within the limits of the area of competition. It was also agreed that the entry should be made on or before the 25th of March. Mr. Jenkins explained that he should lay the recommendations of that meeting before the next meeting of the Council of the Royal Agricultural Society, which will take place on the 1st of February, and immediately after that the advertisements for the competition will be published. A long conversation ensued as to the points which the judges should take into consideration in deciding the comparative merits in the competing farms, but, with the exception of the addition that in judging the dairy farms they should take into special consideration the management of dairy produce, the directions given at the Oxford show were thought to be sufficient. With regard to a suggestion which the Chairman brought from outside, that the management of the dairy farms was in so many respects so different from that of the arable farms that a person well acquainted with the one would not be a competent judge of the other, and therefore that there should be two sets of judges, it was decided to leave the whole question of the appointment of judges with the Council, as so much depended upon the number of farms entered for competition and their situations.

The CHAIRMAN, on the conclusion of the business for which the meeting had been called, said that there were many gentlemen present from Shropshire, most of whom were representatives of noblemen and landed proprietors, and he had been requested by noblemen and gentlemen in Staffordshire to solicit them to use their influence with those for whom they acted, and with others in Shropshire, for subscriptions to the funds necessary for the carrying out of the show. He simply threw this out, by special request, as a suggestion to the Shropshire gentlemen present.

Mr. ASHDOWN said that the Shropshire gentlemen thought that the Staffordshire men were very fortunate in getting the show for their county, and that if the Shropshire men had got it for Shropshire they would only have been too glad to have defrayed all the expenses.

The CHAIRMAN: And we should only have been too glad to help you.

The proceedings terminated with a vote of thanks to the Chairman.

THE ROYAL AGRICULTURAL SOCIETY'S MEETING IN 1872.—As we prognosticated would be so, when it was first announced that the Royal Agricultural Society had fixed on a district including Herefordshire for their exhibition of 1872, there seems to be very little desire shown on the part of either City or County to enter the lists as competitors for the show. The struggles in which Hereford has been unsuccessful, once very undeservedly so, are not yet forgotten, and there is an evident aversion to again entering into a competition. The subject came before the Town Council at their meeting on Tuesday, but was conveniently got rid of by transferring its consideration to the Local Chamber of Agriculture. If anything is to be concluded from the expressions of the only farmer in the Corporation, there is in the agricultural mind of Herefordshire not only no desire to invite the Royal to Hereford, but a positive wish that it shall not be in the least assisted to visit the City of the Whites. This may be all very well; revenge, we are told, is sweet, but there is a sort of revenge which, if sweet, is very silly also; we mean that kind which cuts off its nose to spite its face. We shall look with some interest to the opinion to be expressed by the Chamber of Agriculture upon the matter; for it is pretty clear that if the same lethargic indifference be shown there as has been shown by the Aldermen and Councillors of Hereford, this city cannot be a bidder at the Royal Agricultural Society's next auction. The only town which is as yet preparing for the coming competition is Newport, where the matter has apparently been taken up with much energy and determination, a public meeting having been held there on Thursday, at which no less than £1,500 was subscribed towards expenses.—*The Hereford Journal*. A special meeting of the Newport (Monmouthshire) Town Council has been held to take into consideration a proposition to subscribe a sum of money in order to induce the Council to fix upon Newport as a place of meeting in 1872. The Town Council expressed a unanimous desire that the Society should be afforded every inducement and facility to hold their meeting at Newport, and it was resolved that a sum of £500 should be subscribed by the Corporation towards the holding of the Society's show in the town in 1872. It is understood that a local subscription of about £2,000 will be altogether required, and therefore a town's meeting and a meeting of influential county gentlemen will be held to make up the remaining £1,500.

THE "POSITION" OF WILD ANIMALS IN ENGLAND.—To the Honourable the Commons of Great Britain and Ireland in Parliament assembled. The Petition of the Morpeth Chamber of Agriculture: Humbly sheweth—That a great grievance is caused to your petitioners by the present undefined position of many of our wild animals, some species of which, in some localities, having been almost totally extirpated by being exposed to continuous and indiscriminate slaughter, whilst in other districts some animals are preserved in such enormous quantities as to be seriously destructive to corn and root crops. Wild rabbits, in particular, are so destructive to the produce of arable and pasture lands, that they should only be permitted to exist where an owner confines them within his own grounds, and accepts the responsibility of all damage they commit; and all persons, in possession of the soil, who wilfully permit a burrow used by rabbits to remain open, should be liable to a pecuniary fine, except only in such cases as where they were securely enclosed. That all wild animals when at rest on the soil should be free from disturbance; except only by the owner of the soil or his lessee, such animals when dead to be the property of the owner of the soil, and be under the protection of the law, the same as any other chattel. The owner of the produce of the soil to be in all cases entitled to scare off or kill any wild animal which during the open season is destroying his crops, all such animals being rendered up to the owner of the land or his lessee, and the owner of the produce of the soil being only liable for damages in case of malicious slaughter. That dogs being animals only partially under control, and their unrestrained action on public streets and public roads so frequently injurious to stock and alarming to passengers, that only such dogs as are used in driving stock should be allowed to be at large, on such public thoroughfares. That domestic cats are

such indispensable aids in the preservation of the produce of the soil that they should be protected when on the premises of their owner by a fine on any person destroying them, such fine not to be a barrier to any claim for value their owner may make. Your petitioners, therefore, pray your Honourable

House to pass a law, defining the positions of our various wild animals and containing such provisions as would allow of the greatest enjoyment of our wild animals that is consistent with a due regard to public and private interests; and your petitioners will ever pray, &c.—Thomas J. Ward, Chairman.

WADEBRIDGE FARMERS' CLUB.

At the annual dinner Mr. VENNING of Devonport, steward to Lady Molesworth, said he had always found these meetings profitable and interesting. The subjects generally brought forward were of great interest to agriculturists. He regretted that this year a prize for the best-cultivated farm had not been given, but the secretary would no doubt, explain the reason. One good result had, however, been secured; a ploughing match had been started, and from the success that crowned their efforts last year, there was no doubt that this ploughing match would be very successful. As to the discussion of political questions at these meetings, he was of opinion that when such questions were brought up they should be supported by argument, and the language employed should be moderate and courteous, otherwise an impression got abroad that harmony did not prevail amongst them at these gatherings. With regard to the position of agriculture, he knew that the tenant-farmer had had a most anxious time of it during the past season. The drought had made the last a very trying season; but he could only say that the tenant-farmers had, as a class, met their liabilities as honourable and straightforward men should do, and he had heard similar opinions expressed by gentlemen whose professional duties brought them in intimate connection with tenant-farmers. During the past season farmers had fallen back upon their resources, and fed their cattle upon a good deal of artificial food; but, possibly, that had not been without its advantages, because, perhaps, the trying summer through which they had passed had taught them many useful lessons; and he could not help thinking that on an occasion like the present, if any gentleman had tried any plan which had been found to answer, he should communicate it to his agricultural friends, so that the benefit arising from such experiment might be widely and generally diffused. Passing on to the subject of local taxation, he was of opinion that the question should not be discussed as one solely affecting the tenant-farmer, for he thought the question affected the owners of the soil more than the tenant-farmers; and it was by landlords and tenants uniting in one movement that a proper readjustment of the taxation that fell upon land would take place. This was a difficult question; it was one that must occur, but he was not sure that it was not unduly pressed forward. Depend on it, with regard to all great questions the more they were considered in all their phases, argued and discussed, the better, and the more conclusive in the end would be the measure that would be passed. They knew that the burdens on land affected them; but what would be the effect of their removal on the great body of the community was the question that should be considered. Turning to the Education Act he hoped and trusted (and he believed it would be so) that the country at large was determined to give the New Education Act, with all its merits and defects, a fair trial. And he also thought that those who had really the interests of this country at heart, would not altogether look at the question as one of money. The real question was how to educate the masses and the labouring classes of this country. Shall we give them a good education or shall we not? In the election of school boards he hoped the ratepayers would be careful in selecting the best men to carry out their views, and not be animated solely by the question of economy. There should be no wasteful expenditure; but it would be a most serious misfortune if the operation of the Act and its provisions were cramped by an insufficient expenditure. He believed ratepayers in general were disposed to take a liberal and fair view of the new Educational Act. By this act agriculturists would be more affected than the residents in large towns; he thought it a pity that the question of local taxation had not been settled before this new rate was added to the burden; but the additional pressure might operate as another lever to remove what was considered an

unreasonable and excessive charge. In agricultural districts the operation of this act would be most salutary. In many parishes they would find that voluntary effort would provide all that was necessary—at any rate all that was reasonable, as the act itself was a compromise. Where strong feeling existed for the continuance of the voluntary system, opportunity would be given the clergy and others to build schools and obtain Government grants; and they would shortly see what voluntarism would do. In some districts voluntarism would hold its own, but in the majority of cases he thought school boards would be elected. The compulsory power vested in the boards would he thought be exercised gently. What they wanted was to educate the children, but at the same time in such a manner as to affect or injure their parents as little as possible. The relation between tenant-farmers and landlords was a subject of great interest, because, as education improved, and as they became more acquainted with what was going on in other parts of the country, the more they began to feel that their position should be remembered. He did not think the position of the tenant-farmer had for many years been properly and duly considered. Bringing as they did a large capital to improve the value of the soil, he thought their voice should be heard; and various schemes had been proposed for their security. It did not seem reasonable to any man that a person should come with a sum of money—perhaps his all—be called upon to spend it on his farm, and rely upon the caprice of the landlord whether he sees it returned to his pocket or not, and therefore he thought the tendency was in favour of leases—and leases so expressed that proper provision be made for the security of the tenant. His view was this: A landlord taking a tenant placed out of his power property for many years, in a way which owners of other kinds of property are not called upon to do. The landlord places great confidence in his tenant, and if he did so, he (the landlord) had a right to be properly secured; and therefore it was necessary, in order to meet difficulties which probably might arise, that he should be properly secured in his lease. But at the same time there was no reason whatever that the tenant should not feel that he should have security given him for the return of the capital which he had put into the farm. He objected to model leases; he held that arrangements between landlord and tenant should be unshackled, and then the result would be that the best landlord would get the best tenants, and this would be the cure for existing evils.

Mr. R. G. POLLARD said while he thought that they had much to be thankful for in our English laws, he was also of opinion that they had much to be sorry for. At the meeting of the Callington Agricultural Association which was held a short time since, Mr. Snell alluded to the injustice of some of our English laws, and also ventured to say that there was one law for the rich and another for the poor. No doubt some of them would consider that language such as that was somewhat strong, but he feared that in many instances there was too much reason to believe that Mr. Snell was justified in saying what he did. Let them take, in the first place, the Game Preservation Act. If a policeman in his morning walk met a man with a hare or rabbit in his pocket, that man was immediately brought before the magistrates and convicted for an offence against the law; but if a poor cottager lost a duck or a fowl, and a man was found with the stolen property in his possession, that poor cottager had to go through all the forms of proving ownership and identifying the duck or fowl before the thief could be convicted. In the case of the rich man and his rabbits there was no necessity for his doing anything of the kind, and this was what he called an anomaly of the law. Take another case: When a tenant-farmer, who was in occupation under a rich landowner, through a combination of unfortunate circumstances became insolvent, the poor

tradesman who supplied the house with groceries or other such necessities found that there was not a single penny for him, while the landlord could step in and take charge of everything that was upon the farm.

Mr. GROSE said it was very certain that farmers would never agree in Cornwall as to the best breed of cattle to keep upon their farms. The fact was that where a Shorthorn would flourish on one side of a hill, it would scarcely exist on the other, and therefore whatever breed they made up their minds to keep, the great point was to have the best of that breed, and keep them in good condition. Of late years artificial

manures had sprung up, and in the growing of corn crops they had had recourse to those manures to a great extent; but he did not believe that artificial manure had that effect upon the soil at the present time which they had ten years ago, and his own opinion was that they should use the more artificial food, and less artificial manure. There was a great difference of opinion as to the best way of consuming artificial food. Some said it was better to pass through the bullock; others that it was better to pass through the sheep, and he had found in his experience that the latter was the best.

COMPARATIVE TAXATION.

At a meeting of the Statistical Society, Mr. R. Dudley Baxter read a paper on the subject of Comparative Taxation on Real Property, Personalty, and Income. The chair was taken by Mr. Newmarch, F.R.S., President of the Society.

Mr. BAXTER said, amongst much other matter,

Let us briefly consider the chief sources of income, spread, as it were, in a panorama around us. There is the land, in all its varieties of hill and dale, forest and pasture, arable fields and gardens, permitted long ago by the State to be appropriated as the property of individuals, because in that way only could industry be allured to cover its surface with soil and roads, and hedges and crops, and animals useful to man. But industry has very largely improved, and sometimes many times increased, the land's intrinsic value, and renders many a well-cultivated field as great a triumph of constructive skill and capital as a manufactory. There are buildings of all sorts, placed upon small portions of the land granted by the State, on which the art of man has built, out of stone and clay, edifices of great usefulness and value—houses to dwell in, factories for manufacturing, warehouses for storing, and shops for carrying on our sales and purchases. Again, there are all those great undertakings, requiring a larger use of land, to which the country owes so much of its advanced civilisation—the railways and canals that intersect with their lines of communication the length and breadth of the country, the mines and quarries by which mineral wealth is dug from the bowels of the earth, and the works by which some of those minerals are moulded into useful shapes, or converted into light and fuel for the use of our streets and houses. Besides these immovable properties, there are vast collections of movable wealth, ships for conveying our commerce, manufactured goods, and articles of food crowding our stores and shops; horses, cattle, and sheep filling our outbuildings and fields; and furniture adorning and rendering comfortable the interior of our homes. Clustering round these properties, and exceeding them all in annual revenue, are the industries of millions of living men, who tenant and work these immovable properties, who create these movables, who raise and consume this food, and the reward of whose intelligence and labour amounts in its yearly aggregate to hundreds of millions sterling. But within and at the kernel of two many of these properties, and sitting as helper or lord of many of these industrious men, is another species of property, that we call a mortgage or debt—a property within a property, a sleeping partner among workers, and sometimes a master among slaves; usefully supplying deficiencies in their strength, and substance, but too often appropriating the lion's share of the benefit, and exacting protection from every hardship and burden, which it leaves to be borne by its less fortunate entertainers. Add a crowd of public and private mortgages and securities held by Englishmen in our colonies and in foreign countries, that send year by year over the sea their monetary tribute, and we shall complete a faint summary of the national wealth. In order to obtain a clear view of the direct taxation of this wealth in England and Wales, it is necessary first of all to ascertain, with some degree of approximation, the annual value of each of the different classes of property and income of which it is composed. Their total amount can be approximately obtained from the schedules of the income-tax, and from the estimates of earnings below income-tax in my book on national income. These totals, and their different items, are shown in the table of gross income given in the appendix, and are arranged under

three heads. 1. Real property—lands, houses, and works. 2. Personal property, and mortgages—business and floating capital, furniture, &c., public funds, and private securities in the United Kingdom and in the colonies and foreign countries. 3. Profits and earnings, subject to income-tax, below income-tax. These three main divisions appear to represent most nearly the great classes into which property and income are divided, using the terms in their popular meaning, and not as the same as the technical and legal terms real estate and personalty. But the table shows blanks for some of the subordinate items, which are not given separately in the income-tax returns, and can only be supplied by estimates. At the same time, such estimates are absolutely necessary if we wish to obtain anything like a true idea of the relative magnitude of these different classes, and of the pressure of taxation upon each. These items are: 1. Mortgages of real property. For an estimate of these there is an important precedent in Mr. Gladstone's great budget speech of 1853, when, reviewing the income-tax and its different schedules, he went into the question of its comparative pressure on realised property and precarious incomes, and gave a calculation of the net incomes of land and houses, after deduction of mortgages and charges. The estimate which I have formed of the proportion of charges on immovable property is taken from the experience of conveyancers largely engaged in the transfer of property, namely, on land and houses one-third of the annual value, and on works one-half. The mortgages and charges on real property are estimated at £53,000,000 a year. Interest on capital employed in business—On the average of businesses, taking those with large stocks, like farmers, or with large book debts, like some kinds of traders, as well as those with small—this interest may be estimated at one-fifth of trade incomes. Annual value of the dead capital invested in furniture, &c. This may be estimated at one-twentieth of the income tax-paying incomes, or a total of £20,000,000 a year. It is necessary to add this amount to the gross income, in order to compare the different kinds of property and the result of their taxation under successions. Having dealt at great length with the argument from history on the subject of local taxes, direct taxes and imperial taxes on property and income, Mr. Baxter stated the following as the conclusions from the facts stated: Everyone will agree that the present system of direct taxation, both imperial and local, is very irregular and anomalous, and requires consolidation and reform. As regards imperial taxes, what can be more absurd than the treatment of leasehold property, which is subjected to double taxation, both as real estate and personalty? What more anomalous than the law that personal property passing by will pays probate duty, while personal property, entirely in the same position as regards other taxes, but passing by settlement, pays none? As regard local rates, what can be wider and more irregular than the whole system of their imposition and administration? Would that we could adopt some broad view and comprehensive arrangement that would introduce uniformity and equality into our present capricious and unsystematic system! Everyone will, I think, also agree that it would be a good thing to relieve the dwellings of the poor from bearing so much of the burden of maintenance of the poor. Most economists agree that half the rates fall upon the occupiers, and are paid by increased rent, even when the owner pays them in the first instance. Some economists, like Professor Rogers, believe that the whole burden comes out of the occupier's pocket. Either way

it ought to be an important object of public policy to throw some of this burden off the poor and place it on the shoulders of the now exempt owners of personal property. Everyone will also concede that this is also desirable in a sanitary point of view, and for improvement of the health of the people. But further, we ought to do something to remove a portion of the great inequality that exists between the burdens of real property and personalty, and still more as compared with earnings. Why should land pay $15\frac{1}{2}$ per cent. of direct taxation, and houses $14\frac{1}{2}$ per cent., or 11 per cent., according as they are leasehold or freehold, when personalty only pays $8\frac{1}{2}$ per cent., and earnings $2\frac{1}{2}$? It is an excess beyond all reasonable proportion. If we add the effect of mortgages, it becomes more disproportionate still. This disproportion has gradually grown up, and is constantly growing larger still. Two per cent. was added in 1853 by the succession duties. One per cent. is now being added by the transfer of turnpike roads. The threepenny education rate will add one per cent. more. I maintain that it is an economical mistake to load exceptional taxation on any kind of property. It is unjust, and it is also unwise. It prevents the circulation of capital. It discourages improvements. It hinders the land from increasing its production, and so inflicts an absolute injury on the nation. But it also discourages and hinders the poor man from acquiring a house or a piece of land. I always wonder at my friends of extreme political opinions, who unite two such irreconcilable aspirations, that in one breath they lament the divorce of the poor man from the land, and profess themselves eager for a country of peasant proprietors; while with another breath they call for heaping additional burdens on the land. The two views are absolutely incompatible. If they succeed in one they must fail in the other. But surely their love for the peasant ought to be stronger than their hatred for the landowner. I too should like to see peasant proprietors, every man saving money to buy his own house and his own rood of land. But I want to lighten the burdens that deter them, not to heap on new burdens to prevent them. As to measures. Why should we continue two distinct valuations, one for rating purposes, with fair deductions for repairs and expenses, the other for income-tax, without any deductions at

all? Why should not both be consolidated into the poor-rate valuation? I think that both householders and landowners are entitled to demand this of Mr. Gladstone, and that they should no longer be so exceptionally taxed, as he himself has shown, in their payment of income tax. Why should not also the other schedules of the income tax contribute their quota towards the poor? We have instituted a common fund for London, out of which certain common expenses are paid, and the cost of in-door relief. Extend the principle to the whole kingdom, and let schedules C and E and the unrated portion of schedule D supply such a common fund, and bear this portion of the expense. An eminent French writer on finance, M. Dupont White, says that the income tax, levied in England on the total resources of the country, is a tax of more advanced civilisation, and that our rates on real property are a relic of the middle ages. I am persuaded that we must have larger recourse to this as the oldest and most equitable tax, in place of partial burdens on limited classes of property that grew up during the eighteenth century, and that we must endeavour to lessen the anomaly and injustice of charging 12 millions of rates solely upon net income of £93,000,000 out of the £390,000,000 of property and income liable to income tax in England and Wales, and of distributing the total £30,000,000 of direct taxation of England in these absurd proportions— $3\frac{1}{2}$ millions on £145,000,000 income from earnings, $10\frac{1}{2}$ millions on £152,000,000 income of personal property, and $15\frac{1}{2}$ millions on £93,000,000 net income of real property.

A discussion followed, in which the Chairman, Mr. George Harst, Mr. Frederick Purdy, Mr. Cornelius Walford, Mr. Hyde Clarke, Mr. Campbell, Mr. Arthur H. Bailey, Mr. William G. Lumley, Mr. Vernon Harcourt, Mr. Chadwick, Mr. Noble, Mr. Applegarth, Mr. Rawlinson, and Dr. Guy took part. One question debated was whether local burdens could be regarded as taxes, or as being in the nature of a rent-charge on land and houses; while some of Mr. Baxter's conclusions were challenged, more particularly the comparatively high taxation to which it was said land was subject, but a general opinion was expressed that anomalies existed in the incidences of taxation which demanded the attention of the Legislature.

The proceedings closed with the usual votes of thanks.

"BRANCH" CHAMBERS OF AGRICULTURE.

At the annual meeting of the Lincolnshire Chamber of Agriculture,

Mr. BRAMLEY said he was quite satisfied that Chambers of Agriculture were institutions likely to be of great service. It was therefore most desirable that a Chamber should represent the whole county. They had frequently great difficulty in getting gentlemen to attend the meetings held in Lincoln, consequently they did not get the opinion of the county generally. If by forming committees and branches in different parts of the county they could add to the efficiency and influence of the Chamber, it was most desirable that such branches should be established. He would propose that a committee be appointed to inquire how far it was desirable to encourage the formation of branches, and that the Chairman, and vice-Chairman, and five members form the committee to report to the Chamber. He did not propose that the branches should be separate chambers; they might elect a portion of the Council in their own intermediate neighbourhoods, and be made generally useful in their respective localities.

The following gentlemen were appointed to act as the Committee: Messrs. Trotter, Scarby, Bramley, Seagrave, and Epton.

Mr. TURNOR said it was an old difficulty, the county was so large and the railway communication with the county town from some parts of the country so poor that it was absolutely necessary something should be done. The same difficulty had been felt in Devonshire, Yorkshire, and other large counties.

Capt. CRAGIE had seen the formation of Branch Chambers in Yorkshire and Warwickshire. Members residing in the neighbourhood of the principal market towns held their meetings and discussions on various questions at those towns, and they gathered practical knowledge from farmers at meet-

ings of that sort which they had no chance of getting in cases where it was necessary for them to attend a meeting at a considerable distance. On the other hand it would not be desirable to weaken the Central Chamber by forming too many branches. Such branches might be made of great service in the collection of funds, part of which might be retained for local expenses, and the remainder forwarded to the County Chamber. Of course each member would be a member of the Central Chamber and not of any particular branch. It was proposed to hold migratory Councils; if at the same time they would encourage the formation of Branch Chambers, nothing would tend more to strengthen the Central Chamber.

Mr. WINN was certain that unless something was done the Chamber would soon be incapable of doing much good. He found the greatest possible want of sympathy on the part of many he had met in the Chamber of Agriculture. The only way to keep the Chamber alive and the county interested in its existence, was by the establishment of branches. Any additional cost would be more than repaid by the increase of members. He had looked over the list of members, and, as far as he could judge, not more than 50 out of the 240 were from the northern part of the county. This number would be largely increased if meetings were held occasionally at Louth, Grimsby, and Brigg.

Mr. E. HENRAGE, the chairman, said it would be most desirable that the Council should be migratory, and it would be for them to consider whether the members of the various Farmers' Clubs now in existence should not be allowed to become corresponding members of the Chamber of Agriculture. Brigg, Grantham, Louth, Boston, and Long Sutton would be good places for the establishment of branches and for meetings of the Council. He was surprised that so large a county showed a list of only 246 members.

THE CONDITION OF THE FARM LABOURER.

At the annual meeting of the Stowmarket Farmers' Club, Dr. SHORT said: I would ask you to consider these questions—The condition of the agricultural labouring classes; Is it better than it used to be? Is it as good as it ought to be? If it be not, with whom rests the blame? And (having already presupposed the disease) what are the remedies to be applied? The religious and moral state of the labouring population, although of great interest and supreme importance, was not a matter on which he proposed saying more than a few words, but, bearing as it did on all the other states, thus much should at least be said, that if we take the religious condition of the country half a century ago, and compare it with what we may fairly and honestly believe it to be now, it will be admitted on all hands that there has been an advance. This statement held good of the poorer classes as well as the richer. Still, we would hardly wish to "rest and be thankful," but endeavour to attain to still higher things. The educational state of the poor, through the education scheme which had recently become law, had been of late the most prominent feature of home politics, and one would not be justified in passing it over without a slight reference. That the education of the poor had been neglected in days gone by, the present state of the aged poor was sufficient evidence, but that the Education Act would prove a universal panacea he much doubted. Great strides had been made in the last 40 years; and whilst the old adage said that "a little learning is a dangerous thing," still there was such a thing as over education. He was not in favour of such radical changes as were proposed, believing that in most country places an efficient and satisfactory education by day and night schools had been already provided. He read a letter he had received from a school inspector, who said what he had observed in his own district was that while the majority of men of the labouring classes between 40 and 50 and upwards could not read or write, the majority of those under 40 could do both more or less. This was not the case with women, who generally had, as girls, better chances of learning a little than the boys. For 35 years there had been in nearly every parish a school, where the young had had the opportunity of elementary education. He did not think direct compulsory education would go down, but saw no reason why indirect compulsion should not be applied. Let no person be allowed to employ any child for any kind of labour under eight years of age, and let no child over that age be employed without a certificate that he could read and write. In all schools he inspected a very fair education was being given in the surrounding parishes. He should think Suffolk by no means behind other counties. Education had vastly improved in the last 35 years. As to the question whether the poorer classes care more for education than they did, his answer was they liked it when it was got, they cared less for the getting. In theory they were great admirers of education, but in practice some were very careless about sending their children to schools. They were apt to undervalue schools; this, of course, proceeded from ignorance, and he trusted time would remedy it. On the whole the future of education in this country held out a bright and promising prospect, provided always they did not over educate and make the poor dissatisfied with the station in life in which God had placed them. As to the New Act, he did not at all think it would work well in the rural parishes, still less would the compulsory system. Beyond this the Act was very much what they had been doing on the voluntary principle. He was an unflinching advocate for the religious element, and would never condescend to teach children to be merely good scholars without teaching them at the same time to be good Christians. The time table liberty clause, which provided that parents might withdraw their children from the religious instruction which they objected to, precluded the possibility of any grievance on the part of Nonconformists. He spoke, of course, of Church Schools already built with Churchmen's money and for definite Church teaching. The religious difficulty existed more in Parliament than out, and he was afraid it was only the cloak for "political dodges," such as dis-

establishment. As to the physical condition of the working men of the agricultural class. Their daily habits and the nature of their occupations had changed less than those of any other class, and they had been placed in circumstances more conducive to health than formerly, their wages were certainly higher, and their work not harder, indeed not so hard, owing to the introduction of machinery. They had better dwellings, wore better clothes, and, unless they excepted the time when many farm labourers were boarded at farm houses, were better fed than formerly. The chief subject he wished to bring under their notice was the sanitary condition of the class under discussion. To the question, Was it improved? they might with perfect honesty answer Yes. Although it had been stated with regard to the cottages in Suffolk, and Norfolk that matters could not be worse, that their condition was "miserable," "deplorable," "detestable," and "a disgrace," and that it is impossible to exaggerate the present state of things, speaking for their own district and county he said this was a misrepresentation, a libel, on their fair fame. Cottages had improved and were improving, not but that they must admit that there was still room for considerable improvement, but, speaking from intimate knowledge, he asserted that sanitary matters were steadily progressing. The squalid hut, little better than a pigsty, nay, not half so good as the pigsties shown by Mr. Stearn the other evening, were now the exception and not the rule. But to the question, "Is the sanitary condition as good as it ought to be?" he replied, Decidedly not. The defects were defective drainage, impure or defective water supply, and overcrowding of small dwellings. In many instances the privies were built too near the houses, the effluvia entering the open windows, and accommodation of this kind was frequently insufficient. Under defective drainage, he also classed ash-pits, middens, small dunghills, pigsties, built too near the house. He illustrated this point by comparing the mortality in two Suffolk towns of the same size, when both were undrained, on an average of ten years. In A the rate was 1 in 67, and in B 1 in 69. In the second ten years A, being drained, was 1 in 72, and B, undrained, 1 in 67; in the third ten years in A the rate was 1 in 71, and in B 1 in 59. As to the impure water supply he quoted a case which occurred in his own practice, which produced an outbreak of fever. Two cottages were supplied with a well 12½ yards deep, which was filled by [surface draining, and in very hot summers became dry. When the water was low it (to use the words of the people occupying the houses) "stank very bad," and the next resource was a small partly dried-up pond. The privy was three yards from the house, and the ditch into which it emptied itself twelve yards from the well, the soil being washed away into the earth when rain came. In the summer of 1869 the occupants of both houses fell down with fever, and in 1870 there was again fever. Six children working in a gang on the farm were accustomed to drink the water daily, and all fell down with fever, and one died, but those of the gang who did not drink the well water escaped illness. A day or two since he went into a cottage which had only one room up-stairs, and that with a sloping roof on both sides. It was about 10 feet by 8, and here nine persons slept in a cubic space not more than enough for one. Not long since he reported to the Stow Board of Guardians another case in which 16 persons slept in a house of three rooms, one family in one room, and two husbands with their wives and children in the other. He adduced these cases to show that there were such, and that the evil required to be looked into and remedied, and that he was not taking a one-sided view of the matter. Still this was the exception, not the rule. He passed on to consider whose fault it was that this state of things existed, and did not hesitate to say that there were faults on both sides. He instanced some of the causes for the bad condition of the dwellings of the poor—the cottage being mortgaged, their being the property of absentee landlords, their being the property of small people, who get every penny they can in rent, and care nothing for the tenants. In some instances the larger landlords were to blame; but, on the other hand, did the poor always take the care they ought

of their habitations? They did not. There were families to whom no one would let a respectable house—thrifless, improvident people, who would damage or destroy it, to the detriment of their own comfort and the injury of the landlord. Having, then, postulated this, viz., that there is a sanitary disease existing, what are to be the remedies for its cure? In districts where there is no such officer, the appointment of a sanitary inspector. We have one in the Stow Union, and already we are beginning to see the fruit of his labours, and have, no doubt, in future days, by the increase of the health rate, the lessening of sickness, and consequent reduction of the Poor Rate, we shall in our pockets feel it also. Better drainage by all means is required, the better construction of closets (privies), and their removal further from the dwellings, the trapping of drains running from or near houses, removal of pigsties and dirt heaps also. Better water supply above everything (where there is an insufficiency), better sleeping accommodation where this can be contrived (and in newly-built houses this point considered), prevention of over-crowding by taking in lodgers, and on the ground of morality itself the separating during sleeping hours of the elder and younger members of the families. And, lastly, better landlords where there are bad ones, and better tenants also. Of the good that has been done to our agricultural labourers by the allotment system, of its effect in creating in them a spirit of emulation, honest pride and independence, as a means of spending his spare time in a much better way than it might be spent; of Benefit Societies and their results, of village Clothing and Coal Clubs, village reading-rooms and libraries, all of them bearing on the state and well-being of our labourers; he should say nothing further than thus alluding to them.

Mr. COCKSEGE had found, from several of the researches he had made, that Dr. Short's view was correct—that there had been an amelioration in the condition of all labourers in this country. In the year 1685, when one-fifth of the people of England were then employed in agriculture, Sir William Petty said that 4d. per day with food, and 8d. per day without food, was the general pay of an agricultural labourer. The Justices of Warwickshire, in the same year, at the Quarter Sessions, fixed the wages of a labourer at 4s. from September to March, and 3s. 6d. for the rest of the year. In Devonshire the rate of wages was 5s. a week, but at Bury St. Edmund's the Magistrates, in 1682, resolved that the wages should be 5s. per week in winter, and 6s. in summer; at Chelmsford the rate was 6s. in winter, and 7s. in summer, and that seemed the highest amount paid at that time in the kingdom. The necessaries of life were then very dear, for wheat was 70s. a quarter. In manufactories the workmen were paid about 1s. a day, and often were forced to work for much less than that.

Mr. HENRY CROSS had begun paying for agricultural labour forty-five years ago; yet he did not intend to make a remark on that point because he was not now an employer of labour. As far as cottage accommodation went, he could speak, and could say that in his remembrance cottage comfort had very much increased. The enclosure of commons and roadside waste had, however, not worked for the benefit of the labourers in one respect, as they used to serve to assist wages. The pig of the labouring man used to be grazed by the roadside, and the garden was often manured from the same source. Still he thought there could be no doubt that the labourers had increased their use of luxuries. When he first began to pay labourers a great many of them ate brown bread; a piece of white bread was not a common thing amongst them. Now, white bread was always used by the labourers. They had greater facilities now for purchasing luxuries, as there were more shops than formerly. Most of the poverty amongst the labouring classes was caused by the large families. An employer could not, of course, pay a man more because he had a large family, and many a man was considered a hard master on that account. It was the large families in the small and inconvenient cottages who made the rougher of the labouring classes. The reason was that such people had not the opportunity of keeping their cottages in so good trim. He found also that there was great difficulty in getting good tenants when there were good cottages. They would work the gardens well enough, but the most industrious of them would scarcely keep the back part of their premises in good order. He could quite agree with Dr. Short as to keeping nuisances at a distance from the house, but it was one of the greatest difficulties a landlord had to encounter.

Mr. COCKSEGE asked if Dr. Short considered black or rye bread good to eat? Almost all authors considered that England was in a low state of civilization when the people ate black bread. When in the countries on the Black Sea, he had found that the people almost all ate black bread. He had himself got accustomed to, and to like it, and found that two slices eaten in the morning would be sufficient to carry him through the day. They had, however, very good butter, and the people thrive upon it. They were very muscular, large boned men, and very strong.

Dr. SHORT said brown bread, or the "whole wheat" bread now advertised very largely, was, no doubt, very wholesome. It was only another form of brown bread. The rye-bread Mr. Cocksege had referred to was likely to do harm, because the rye was apt to be what was called in farming language "spurred," that was, a black smut on it, and that fungus became what was called ergot of rye, which was used in medicine. In using much rye-bread, this might be taken into the system and produce a form of dry mortification, or dry gangrene. Even in two or three cases where ergot of rye has been given very judiciously, dry gangrene had supervened. Mr. Cocksege had told them of the effect of rye-bread as food—that those who ate it in the morning required nothing else during the day.

Mr. COCKSEGE: Except beer; I ought to have mentioned that.

Dr. SHORT said that in the countries where rye-bread was extensively used there was much dry gangrene. In Siberia, where the Russians sent their prisoners, and black bread was used, dry gangrene was very prevalent.

Mr. MILLER could testify that the labourers were better off now than when he was a youth. When he was a boy it was a common thing to see boys and girls running about without shoes or stockings—a thing scarcely ever seen now. The men did not earn so much then as they did now, and within his memory agricultural wages, as compared with the price of corn, were higher. He could refer to a memorandum from an old farming account book, showing that a farmer had sold a score of wheat for £95, and paid 2s. 6d. a coomb for thrashing it. What would they think of that now? At that time the families earned more than they did now. One great drawback at the present time was that the families of the poor were now deprived of the spinning. In his early days he had heard of families, where the man was not very prudent, in which the woman would call up her family at an early hour and do enough spinning before breakfast to procure that meal at the shop. With regard to the sanitary condition of the poor, he sometimes thought there were not the facilities for their habitations that there ought to be. The larger owners could provide good cottages, but the smaller owners who had to derive income from cottage property, could not make their cottages what they ought to be. Cottage property ought not to be so heavily taxed. As soon as a cottage was built it was rated, and though the rate ultimately fell upon the occupier, yet at the first it was borne by the owner. With regard to Income-tax, if they paid 4d. in the £ for ordinary property, they had to pay 7d. for cottages, because they paid upon the gross rental; and, as they all knew, they did not get anything like the gross rental after allowing for loss of rent and repairs. He thought, therefore, that these drawbacks ought to be removed, and every facility given for the erection of cottages, so that people could have some chance of getting interest for their money. If a system could be devised so that people could get a moderate interest for their money in cottage property, there were many benevolent individuals who would do what they could to improve the dwellings of the poor, but so long as they were subject to an extraordinary tax, it could not be expected that they should build cottages.

Mr. H. A. OAKES asked, if no children were allowed to go to work till after they were eight years old without a certificate that they had attended school, how much knowledge Dr. Short expected a child to have at that age.

Dr. SHORT said that suggestion was not his own. He had met with it and adopted it as it appeared to him to be a very good one. It was in a very sensible letter upon education that he met with that suggestion.

Mr. H. A. OAKES then asked, if the labouring classes had more comforts than in former days, what they must have when a man had to support a family upon 9s. or 10s. a week? The extraordinary part of it to him was how they lived. To him

it was a case of existence, not living. They trusted to the harvest to pay their rent, and in a season like those which they had had for the last two or three years, the harvest had not amounted to much, especially on the light land, as it was so very quickly over. Again, he would ask how it could be expected that a labourer should be able to send two children out of seven or eight to school when he was earning 8s. or 9s. a-week. The elder children could only assist him to live, and if two of them were taken out of the family and prevented from earning their 2s. or 2s. 6d. a-week, they reduced that man's income £10 or £12 a-year. As to education, of course, he did not object to that, but thought we were now working a little too much on the present generation for the sake of the next. The educated labourer would obtain higher wages, but, so far as he could see, the agriculturist would have to pay for that, as the labourers would, the better they were educated, be the better enabled to become mechanics, and to work for such firms as Messrs. Woods and Cocksedge, which they would do rather than continue on the land. They would, therefore, advance the position of the labourer, and have to pay for it.

Mr. J. H. HEIGHAM, the Chairman, said that when he was quartered in France, when a young man, he had been astonished at seeing the black bread so much used, and generally the wretched way in which the people lived. He knew that his own labourers always had good white bread. Their style of dress had also much improved during his own recollection. He could recollect their wearing, in his own parish, where he had lived since he was 25 years old, long slops of common material, but now they could always be seen at church with good cloth clothing, gaiters, and highlows. Wages had also improved, and where he had paid 7s. and 8s. a-week he now paid 10s. or 11s. He thought, therefore, that they might very safely say that the condition of the labourers had improved.

Mr. WOODWARD said of cottage property, that the return in the shape of rent was insufficient, in most cases, to pay five per cent. on the outlay, and that was one reason why they were so badly built and arranged. He should be glad to be without his cottages, if it were not for the accommodation they were to his own labourers. The condition of the labourer had no doubt improved. As to the question Mr. Oakes had asked—how a labourer could keep his children at school on 10s. a-week—the labourer with seven or eight children was in a better position as soon as they began to earn money.

Mr. OAKES said that Dr. Short had spoken of children under eight years of age—they could not work.

Mr. CROSSE: But he could not have seven under eight years of age.

Mr. OAKES: Oh, yes, he might.

Mr. WOODWARD: I can only say I hope that is an exceptional case, and not the rule. The number of children a labourer had to keep was not always a criterion as to his condition socially, as he was better off as soon as they were got out to work, and the father would soon be taking £1 a-week of his master. He had found that children from large families invariably made the best servants, because they had been obliged to work early. The landowners had done all they could for the education of the poorer classes, and he denied that they were kept in ignorance, as had been stated. The cottage-accommodation was not so good as it should be; but that was in some measure due to the tenants as well as to the landlords. There were a great many tenants who did not deserve a cottage at all.

A vote of thanks was passed to Dr. Short.

OBITUARY.

DEATH OF LORD WALSHINGHAM.

We regret to record the decease of this nobleman, which took place at Merton, by his own hand, on Saturday, Dec. 31st. Lord Walsingham, of Walsingham, in the county of Norfolk, fifth Baron, was born on July 6th, 1804; succeeded his father in 1839; married, in 1842, Augusta Louisa, eldest daughter of Sir Robert Frankland Russell, by whom he leaves issue the Honourable Thomas de Grey, M.P. for West Norfolk since 1865. This lady died in 1844, and his Lordship married, secondly, in 1847, the Honourable Emily Elizabeth

Julia Thellason, eldest daughter of Lord Rendlesham, by whom he leaves a numerous family.

Lord Walsingham was elected a Member of the Council of the Royal Agricultural Society of England in 1855, and a Vice-President of the Society in 1861. He filled the office of President in 1860, in which year the annual show was held at Canterbury. He joined the Smithfield Club in 1851, and was elected President of the Club for 1863. His Lordship was also President of the Wayland Agricultural Association, the meetings of which have been held at Watton, near Merton, for 30 years. As an agriculturist, Lord Walsingham was chiefly famous for his Southdown flock, for some years past the most successful of any in the country. On the Home Farm, at Merton, which has been much improved of late by marling and scientific cultivation, there is a Southdown flock which dates back for about forty years. The sheep, however, were originally small; and when Lord Walsingham first began to think of exhibiting, he was told that the soil was too poor, and that animals from it would always be beaten by those which came from better lands; as this at first was the case. But some success came in 1851, at the Norfolk and Yorkshire shows; while since then, Lord Walsingham has continued to improve his position, until at length, for seven times in eight years, he has won the Gold Medal or Cup at the Smithfield Club, culminating his honours at the last two shows with the Champion Cup for the best pen of sheep "of any age or breed" in the Hall. The foundation of the improvement in the Merton flock traces back to Jonas Webb, of Babraham; but constant resort has been had to the stocks of the Sussex men themselves, such as Messrs. Rigden, Hart, Turner, Ellman, and Boys.

At the time Lord Walsingham succeeded to the Merton property, a considerable portion, about 4,800 acres, was held in large rabbit-warren farms, one consisting of as much as 2,100 acres. His Lordship's first object was to get rid of the warren as the leases fell out, and that was effected in the course of a few years. This step necessitated the building of farm-houses and premises, and the sub-division of the land; and the holdings here now range from about 600 to 700 acres, while pains have been taken of late to reduce the rabbits. The main improvement necessary was to strengthen the staple of the sandy soil by marling or claying, for which there existed every facility. This proceeded slowly in the hands of the tenants, and large tracts were consequently taken in hand by Lord Walsingham himself, who at one time occupied in all about 3,500 acres. Large portions have now been marled or clayed at the rate of from 80 to 100 loads per acre, or, in some instances, much more, and the arable lands divided by fences. Enough already has been effected to show that, by liberal but not necessarily very expensive cultivation and careful farming, good crops may be grown on land where formerly the produce was but little more than rabbits. A portrait of the late Lord appeared in the *Farmer's Magazine* for July, 1870.

The succession to the Peerage of the Hon. Thomas De Grey, will cause a vacancy in the representation of the Western Division of Norfolk. The announcement of his father's death was telegraphed to Mr. De Grey, who was at once summoned to Norwich from Gunton, where he has been shooting with the Prince of Wales. The new Peer entered the House of Commons as member for West Norfolk, and moved the Address to the Throne in 1867, during Lord Derby's Government. The first peer was Lord Chief Justice of the Court of Common Pleas from 1771 to 1780, and the second was for twenty years Chairman of Committees of the House of Commons. The barony was conferred by George III. in 1780.

The cause of death was at first kept private, but it was impossible to avoid an official investigation, and a coroner's jury have returned a verdict, "That the deceased killed himself while of unsound mind."

THE EARL OF AYLESFORD, after an illness of only a few weeks, died on Tuesday morning, Jan. 10, shortly before two o'clock, at the family residence in Grosvenor-street. The deceased Heneage, was the eldest son of Heneage Finch, Earl of Aylesford, and Baron of Guernsey, in the peerage of England, by Lady Augusta Sophia Greville, fourth daughter of George, second Earl of Warwick, and was consequently brother of the Countess of Dartmouth. He was born 24th December, 1824, and married, 7th May, 1846, Jane, only daughter and heir of the late Mr. John Wightwick Knightley, of Bury-off-

Church, Warwickshire. Previously to his accession to the peerage, in 1859, he represented South Warwickshire in the House of Commons from 1849. The family honours are inherited by his eldest son, Heneage, Lord Guernsey, born on the 21st February, 1849, and married only on the 8th inst. to Edith, third daughter of Colonel Peers Williams, of Temple House, Berks. Lord Ayleford was very partial to the pursuits of agriculture, took an active interest in the improvement of his estate, and had established a very good herd of Short-horns, a steer from which was the best of all the beasts at the Birmingham and Smithfield Club Shows of 1870. Lord Ayleford was a Vice-President of the Smithfield Club.

DEATH OF A SUFFOLK AGRICULTURIST.—It is with regret that we have to record the death of Mr. George Dobito, of Croyley Grove, Lydgate, near Newmarket, after a long illness, aged 59. Mr. Dobito was well known in the Eastern counties as an agriculturist, more especially for his black-faced flock. He also frequently acted as a judge of riding horses, being very fond of hunting as well as of cricket and chess. Mr. Dobito was a man of much ability, and in his earlier day wrote a prize essay or two for the *Journal* of the Royal Agricultural Society.

THE LANDLORDS AND THE CENTRAL CHAMBER OF AGRICULTURE.—It was erroneously supposed, when Chambers of Agriculture began to be formed in different parts of the country, that they were established by tenant farmers with the view to protect their interests, but it has lately transpired that they were promoted by and intended to serve, not the interests of the tenant farmers, but those of their landlords. It would naturally be presumed that the Central Chamber of Agriculture in London, was an association of tenant farmers, but what do we find to be the case?—why that more than one half of the members of this Central Chamber of Agriculture—altogether less than 200—are *not farmers* at all but *landed proprietors*. We make this statement on unimpeachable authority, and, as it consists of so large a proportion of landed proprietors it is but natural to arrive at the conclusion that in seeking their tenants' interest they are really looking after their own. The first active step of this Central Chamber was an agitation for the abolition of the Malt Tax. What was the idea that prompted this? Why, simply the hope that it would raise the value of inferior barleys, make farming more profitable, and enable them to raise rents. What are they doing now? Why the Central Chamber has been endeavouring to get a memorial to Parliament on the question of Local Taxation proposed and carried at the various courts of Quarter Sessions throughout the kingdom, similar to that which was proposed by Mr. Lopes at our own court a few days since. And what is proposed by this revision of Local Taxation? Merely to take certain charges now made on land and house property in real estate, and transfer them to the general charges of the country. In plain English Mr. Lopes's proposal is to take the taxes off the land, and impose them on the commercial and manufacturing interests. But what would be the result of such a course; would tenant farmers benefit by its adoption? Mr. Lopes did not pretend to say they would. He honestly and fairly alleged that his real object was to benefit landed proprietors. Sir George Jenkinson, however, was not so straightforward, and pretended that the motive was to benefit the struggling tenant farmers. But what said Lord Lichfield when the subject was agitated at the Worcestershire Chamber of Agriculture, and the attempt was made to show that it was not in the interest of the landed proprietor but of the tenant farmer that this proposition was made? He told them plainly that it was idle to suppose that they would benefit by any reduction of local taxation, but that if all rates and taxes were alienated from landed proprietors, it would only result in increasing the value of land, and landlords would demand proportionately increased rents. This was speaking the plain truth, and if Sir George Jenkinson again addresses tenant farmers on the subject of local taxation, and tells them he is agitating the question for their benefit, they may believe him if they well. In spite of the pressure of the county and other rates, rents have been for years past steadily rising, and continue to do so.—*The Wiltshire Independent*.

LOCAL TAXATION.—At a meeting of the Warwickshire Chamber of Agriculture at Rugby on Tuesday, Mr. Gardner, the secretary of the Local Taxation Committee read a long paper embodying the views of the committee, with which our readers must already be familiar. Sir R. M. C. Hamilton, the chairman, Mr. Devonport, M.P., and Mr. Caldecott, subsequently spoke to the question, but the farmers present took but little part in the discussion. Towards the conclusion, however, of what appears to have been but a tame meeting, Mr. Walton (Shipston-on-Stour), said he thought that the increase in the value which land derived from the investment of capital should be held sacred and inviolable from taxation until such a time when the tenant had from low rent repaid himself for the amount he had laid out. They should induce capitalists to invest their capital on land, the value of which depended in a great measure upon the amount of money invested upon it. By driving capital out of the country, they would reduce the value of the land, and he thought, therefore, that it was a question of land *versus* capital. Mr. Gardner thought that Mr. Walton had wrongly estimated the question. He did not think it was a question between land and capital. He believed that the income derived from all property should contribute towards the safety which all property required. Mr. Dunn thought that if the rates were collected in any other way than the present system, it would be under the form of an income tax. This country had escaped from the feudal system, but there were still many traces of it left in connection with land.

HAIL STORM INSURANCE.—At the annual general meeting of the General Hail Storm Insurance Society at the offices, in St. Giles'-street, Norwich, the report stated that the past season has been full of vicissitudes operating against insurances generally, but more especially hail storm insurances. Drought, inferior crops, and a general want of prosperity amongst the agricultural classes have tended to reduce the amount of acreage much below that which has usually been insured, but it is a satisfaction to be able to state that although the business has suffered more or less in every county this society has been enabled to add several hundred new insurers to its supporters, so that the falling off of our old customers (which from the above causes, we hope is but temporary) has not been felt to the extent that might have been expected, and we therefore look forward with confidence to regain our old position in the coming season. Another severe trial has been borne by this society, which its ample funds and extended business have enabled it to sustain satisfactorily. Hailstorms during the past season, although they have not been numerous, have been of a more serious character, as to the amount of damage done by them, than at any time during the past 12 years. The absence of ordinary thunderstorms until the middle of June last, when the crops were unusually forward, had caused many to neglect to insure even those crops which were worth insuring; then came the fearful visitations of the 16th and 17th June, and where the latter storm was heaviest, the damage was almost incredible, considering its short duration; one agent who witnessed it wrote immediately and stated that it had exceeded in destructiveness the great hailstorm of August, 1843, and we have no reason to doubt the statement then made, for we paid his clients alone near £2,000, besides other large sums in surrounding agencies, and we heard of many sufferers in the district who were not insured at all, and to convey to our agricultural friends an idea of the extent of the losses, we extract the following items from some of our surveyors' returns of claims allowed by us on this occasion: Wheat, five cases 24 bushels an acre, one 20 bushels, &c. Barley, two cases 24 bushels an acre, six cases 16 bushels, &c. Oats, three cases 20 bushels an acre, &c. Rye, two cases 20 bushels an acre, &c. Peas, two cases 28 bushels an acre, four cases 20 bushels, two 18 bushels an acre, two 16 bushels, &c. Beans, one case 20 bushels an acre, three cases 16 bushels, &c. Potatoes, £3 an acre, &c. These being but a few cases selected from the numerous claims paid by this society alone, it is easy to conclude that the total damage done must have been very great indeed. It is well known that the aggregate number of insurers in all the offices represent only about 15 per cent. of the crops grown, leaving 85 per cent. wholly at the risk of the farmer; that this should be so appears unaccountable, especially as the premium is now reduced to a few pence per acre.

THE PENRITH FARMERS' CLUB.

At a meeting held to further discuss the question of purchasing the freehold of the corn and other tolls affecting the Penrith market, and to consider the desirability of procuring an analysis of certain specimens of limestone selected from the neighbourhood, Sir Henry R. Vane in the chair, the Secretary, Mr. T. Robinson, read over the minutes of several committee meetings, from which it appeared that eighteen specimens of limestone had been selected from the district, and that it had been ascertained the charges of Professor Anderson, Dr. Voelcker, and other scientific men for supplying an analysis were from £1 to a guinea for each specimen.

The CHAIRMAN, whilst regretting that the cost would trench so largely upon the funds of the Club, thought it was very desirable that the farmers of the neighbourhood should be informed as to the quality of the lime they used for agricultural purposes.

Mr. OLIPHANT-FERGUSON was of opinion that the Farmers' Club would not be prepared to spend eighteen guineas, nor half that amount, in procuring the analysis suggested. He thought it was for the owners of quarries themselves to furnish an analysis of the limestone they used.

Mr. HESKETT thought that in adopting the proposal they would only be carrying out a resolution of the Club. Whatever other people might be disposed to do, he thought a certain number of limestone samples ought to be analysed at the expense of the Club, because it was very necessary that farmers should know what they were buying in the shape of lime. Eight, nine, or ten samples might be selected, and he proposed that something like that number should be analysed by Professor Anderson. No more than ten samples need be forwarded for analysis, seeing that of the eighteen specimens some had been selected almost from the same place.

Mr. J. C. SMITH remarked that one of the members of the Club, Mr. McDougall, had promised to select what he called "typical" specimens, in order to avoid the expense of an analysis of rock obtained from the same geological formations. Some of the examples it would be found greatly resembled each other, whilst in others there was a wonderful difference. Mr. McDougall, from his chemical knowledge, would select such samples as differed greatly from each other, an analysis of which would prove of the greatest benefit to the farmers, because whilst some kinds of lime were absolutely beneficial to the land others were poisonous or worthless. He could conceive of no ordinary question of more importance to the farmer than to know whether, if he placed so many cartloads per acre upon his land, it would benefit or injure it.

Mr. OLIPHANT-FERGUSON thought it was as much to the interest of owners of lime quarries to furnish an analysis of limestone as it was for the manure merchants to do so.

Mr. TINNISWOOD said the farmers would derive greater advantage from an analysis of manures, of which they used a much greater quantity.

Mr. T. BOWSTEAD inquired whether the chemist would give an opinion as to the agricultural value of the samples, because it was well known some limes which were the very worst for building purposes were the best for the land.

After considerable discussion it was decided that not more than ten samples should be submitted to Professor Anderson for analysis.

The SECRETARY read a letter from the Duke of Devonshire, the present owner of the freehold of the tolls, who expressed his willingness to sell at such a reasonable price as may be deduced from a fair proportionment of the rental paid by the Local Board, the present leasees, and that he was prepared to consider any specific offer which might be made for the purchase of tolls. In the course of the discussion which followed, it appeared that an unsuccessful attempt had been made by the Local Board to purchase a site for the proposed corn exchange.

The CHAIRMAN explained that the Board of Health appeared to be under the impression that the farmers contemplated purchasing the tolls, whereas it was intended that the purchase should be effected by the Board.

Mr. FAIRER (clerk to the Local Board) said the Board of Health had offered £3,000 for the tolls, but Mr. Mounsey, whilst stating that the offer was greatly below the value he

put upon the tolls, declined to name a sum, and the Board were compelled to withdraw from further negotiation. Mr. Fairer added that the Board were still prepared to offer £3,000 for the corn tolls, the shambles, stallage, and the fair hill, for which they paid a rent of £138.

Mr. HESKETT and Mr. SMITH stated that the offer was below the value of the tolls. Their real value was £3,450.

Mr. HARRISON, in reply to a question, said it would not be prudent to buy a part of the tolls. It would be to the interest of the farmers and the inhabitants of the town that the whole should be secured.

A very long and animated discussion followed, in the course of which it was stated that the present lease had yet eighty years to run, but that in consequence of the introduction of new methods of disposing of grain and agricultural stock the revenue to the Board was gradually decreasing, hence the value of the tolls was depreciating. Mr. Fairer said it was intended that the landowners of the district should pay the purchase money; and when the transfer was effected, the present tolls would be removed. Mr. Smith thought the Farmers' Club was placed in a false position. If the farmers purchased the tolls, he could not see in what way they could ensure freedom from other tolls which might be imposed. Various arguments were used to show that farmers still desired to show grain in sacks, in opposition to the statement that farmers had it in their power to sell by sample, and thus evade toll altogether. Mr. I. Wilson said, twenty years ago Penrith market was larger than at the present day, but that was because farmers now paid more attention to the rearing of stock. After a very lengthy discussion, a committee, consisting of the Chairman, Vice-chairman, the Secretary, Mr. Harrison, and Mr. Thom, were appointed to meet a committee of the Local Board, with the view of ascertaining the precise sum at which the Duke of Devonshire would be disposed to sell the tolls.

THE PRICE OF WHEAT.—The balance of trade—or of Free Trade—has at length become so admirably adjusted that nothing will now send up corn. The yield may be good or bad, the quality excellent or the condition generally inferior, our supplies from abroad may be large or small, they may make rates as high in New York as they do on Mark Lane, and still the millers look on with indifference. One very war which creates consternation in the money market causes little or no change in the corn market. Any time during the last three or four years a careful man might have felt justified in speculating in wheat, and rarely would the result have warranted his so doing. The farmer may, and no doubt will, continue to grow wheat, but he must be prepared to do so at a certain fixed price, as probably no man will do better than one who sends his corn regularly in as it best suits him to thrash it, without caring to look or wait for any turn in his favour. Still it is difficult to see, how when either peace is proclaimed or war extended but that breadstuffs must become dearer. Mars and Ceres are necessarily as opposing interests as France and Prussia.—*The Story of the Year in the extra Number of Gentleman's Magazine.*

THE WILTSHIRE LABOURER.—The following remonstrance has been signed by a number of the leading agriculturists in Wiltshire: "The *Marlborough Times* of January 14, 1871, contained a report of some evidence relative to the condition of the agricultural labourers of Wiltshire, said to have been given by Archdeacon Stanton, before a Royal Commission sitting in London; and as many of the statements in that evidence are totally erroneous and likely to mislead the public as to the rate of remuneration paid to the labouring population of this county, as well as their actual condition, we, the undersigned farmers and others of the county of Wilts, feel it our duty to give them an unqualified denial. And we hereby publicly challenge Archdeacon Stanton to substantiate his statements (if he can), by the production of facts; or to retract what at present we regard as an unfounded aspersion upon the farmers of Wiltshire." It is proposed to present this in person to the archdeacon.

THE WINFRITH FARMERS' CLUB.

At the anniversary dinner there was a capital attendance, Mr. J. J. Bates in the chair.

Mr. E. J. WELD said the pulping of furze was of great importance. He himself had put up a pulping-machine, and as far as his experience went the pulped furze was productive of great benefit, of great advantage to all kinds of stock. Another important matter was the cultivation of root crops. They had during the past year seen a great difference, which it was difficult to account for, in the maturity of the crops. A good deal of this had been owing, no doubt, to the different times of sowing. It was a great point in critical seasons like the present whether they should sow early or late; the subject was a fair one for discussion.

The PRESIDENT passed on to the distribution of the awards of the judges, Mr. C. Kent and Mr. Dowden, as under:

General Crop—First, Mr. T. Randall; second, Mr. Ellis; third, Mr. T. Chapman Saunders, of Watercombe. Highly commended, Mr. Calcraft.

Ten Acres of Swedes—Mr. W. Chick.

Five Acres of Swedes—Captain Farrer.

Five Acres of Mangold—Captain Farrer.

Two Acres of Mangold—Mr. W. C. Lacey.

Ten Acres of Turnips—Mr. Chick.

The PRESIDENT announced that, in addition to the first prize of £5 offered by the Club for the general root crop was a prize given by Mr. Calcraft.

Mr. DAMEN had been rather anxious to ascertain the feelings of landlords on the subject, and regretted from an instance of which he had lately heard that the prejudice against the cultivation of the flax still existed. He had thought that it had long ago worn out. He thought there ought to be no prejudice against it whatever.

Mr. T. RANDALL, the winner of the cup, said that during his experience of 40 or 50 years he had never known turnips lie in the ground so long. The crops, too, had suffered considerably from wire-worm and grub. No man occupying a farm of 300 acres ought to be without a steam cultivator. He had found the greatest benefit from the use of one. On going over his field he could show where the steam cultivator had ceased work, so well was the work done.

Mr. CALCRAFT looked upon it as very interesting to hear what Mr. Randall had said about the steam cultivator.

Mr. T. RANDALL recommended a 14-horse engine for deep cultivation.

Mr. CALCRAFT: You meant, of course, 300 acres of arable land?

Mr. RANDALL: Yes.

Mr. CALCRAFT said: As to the subject of parishes being saddled with the enormous debts of the Turnpike Trusts, and also the maintenance of the roads, he would join in any petition that might be drawn up. He looked upon the proposal to be, if carried out, utterly unjust, and thought it would meet with general resistance, especially as an educational rate was looming in the distance.

Mr. DOWDEN suggested that in future the judges should be allowed to exercise their discretion more than they had hitherto done. The landlords should try experiments for the benefit of the tenantry, as Mr. Weld had done in the pulping of furze. Regarding another subject, he had long been of opinion that there was nothing to beat the steam plough and the steam cultivator, particularly on strong land; light thin soils were not calculated for steam. He thought if Tenant-Right, or if good long (say twenty-one years) leases were secured the difficulty of capital would be met.

Mr. MARKE gave "Success to the Neighbouring Clubs—the Milborne St. Andrew, Blandford, and Dorchester."

Mr. KENT could not bear the idea of anything said to the disparagement of the Milborne Farmers' Club; the only thing to be regretted, he thought, was that the same publicity was not given to it as to the sayings and doings of other clubs.

Mr. CHAPMAN SAUNDERS said his conviction was that the increased taxation must eventually be borne by the landlords. He was pleased, he said, to see that in no less than ten counties the question of the adjustment of rating had been taken

up at Quarter Sessions. Their friend Mr. Randall had attributed his success to steam cultivation; he (Mr. Saunders) believed the day was coming when steam cultivation would be generally introduced. Passing to another topic, he said he did not advocate much amendment of the game-laws; a better understanding between landlord and tenant would do more good than any alteration in that respect.

WEST CUMBERLAND FARMERS' CLUB.

At the annual dinner at Whitehaven, Mr. Jefferson, of Springfield, in the chair, Dr. TOSH read a paper "On the Composition and Value of Oil-cakes." He said the adulterations of oilcakes are, as many of you may know to your sorrow, but too manifold. Water is sometimes added in undue quantity to increase the weight, and sand also for a like purpose. These sophistications are, however, easy of detection on analysis. But by far the most common and the most insidious means of adulteration is that of mixing the pure seeds with cheap innutritious vegetable matter, such as earth nut, acorns, and the like. The presence of such substances is shown on analysis by the poverty of cake in oil, albuminoids, or both, but their specific nature can only be identified by means of the microscope. So common indeed has adulteration of feeding cakes become, that Dr. Voelcker, of the Royal Agricultural Society, gave it as his opinion that upwards of 50 per cent. of the cakes in the market were spurious. Now farmers have the matter in their own hands. If on analysis these cakes can be proved spurious, he is in a position to claim damages. As the adoption of analysis of manures has become more general during the past few years, it is not much to say that the vendors of worthless rubbish under all kinds of high-sounding titles, have been driven almost entirely out of competition. Let the same system be adopted in regard to oil-cakes, and we shall hear fewer complaints.

Mr. R. JEFFERSON (Preston Hows) gave "The Landed Proprietors." He thought the gravest charge against them in the present day was the over-preservation of game. He thought they could not charge the landed proprietors of this part of the county with that; he would be delighted to see a little more game on his own land. The duties of landed proprietors were very numerous, and he did not know whether he dare enumerate them. But he might mention one way in which they could do a great deal of good, and that was by going to the expense of purchasing a good entire horse, and keeping it for the benefit of their tenantry. The same might be said as regarded cattle. If this were done, it would do them all a very great deal of good, because tenant-farmers could not be expected to go to the great expense of purchasing first-class animals at such high figures as they were sold at in the present day.

Mr. STANLEY (Ponsonby Hall) said there was one thing that tenants often failed to do. The landlord as a rule was called upon to pay half the expense of drainage of his land. This he did willingly, but if the men's wages, &c., were reckoned in, it would be found that the tenant paid the larger half. But what he had to complain of was this, that farmers as a rule did not look to their drains and keep them clear; they didn't see that the outlets were clear in the main-fall. He would ask all to think well over that matter.

Dr. CLARKE proposed "The Tenant Farmers of West Cumberland." He felt that tenant farmers did not receive that attention from their landlords which he thought their interests deserved. As far as he had been able to judge, a much greater outlay was necessary on the part of the landowner. The farm steadings, &c., required improving. He had seen, in small steadings, animals of very high value put into premises not fit to put a dog into. That was a point he should like proprietors to take into consideration.

Mr. BORTHWICK said in reference to Mr. R. Jefferson's remarks as to landowners providing good horses for the tenantry, he should rather advise that tenants ought to keep good mares, instead of old hacks. His noble master had kept a bull until he had nothing to do, and then he disposed of it. But he still retained the stallions, and these had little to do.

AGRICULTURAL REPORTS.

SOMERSETSHIRE.

There is not much to report beyond the effects of the severe frosts we have had. It is well the wheat plant was not more forward; it is making less appearance above ground than it has for years, and there are some rumours of its being injured, but these have not been verified as yet. We had frost and rain at the beginning of last week, and on the high ground snow has lain for some days. The large turnips and swedes are much injured, the smaller ones may produce some greens; but this failure of roots has greatly disappointed the hopes of the farmers in helping out winter provender. We have had the reverse of a mild winter, and if we have a backward spring it will be disastrous in no small degree to the stock holders, and must influence the price of cattle-feeding produce. Some few parties have bought in barreners, but there are many who would have done so if they had had keep. There is little complaint of disease amongst the stock; the foot-and-mouth disease has greatly abated, and appears to have nearly run out. As yet stock have not suffered from shortness of keep, looking better now than they are likely to do when two months have passed over; for sheep there is still a worse prospect, and they are already not looking so well as other stock. Winter oats and barley have been cut down, if not destroyed; the same may be said of vetches (there was considerable breadth of land sown). Fat beef and mutton keep up their high prices; but now stock is receding in value the price of cattle-feeding corn is gradually advancing and the consumption increasing, which will be very large for at least two months to come. Pork, which is the cheapest meat, is 1d. to 1½d. per lb. under beef or mutton, being worth 11s. per score and under. The make of cheese last year was short, and prices are likely to be maintained. There is little doing in wool at rather improved prices. At present the price of flour keeps up better than wheat, the large deliveries of the farmers having sent down prices 1s. to 3s. per qr. Want of straw for the cattle also keeps prices down. Holders do not like to store away, and it is offered as soon as thrashed; they were disappointed in obtaining 7s., and now 6s. 6d. to 6s. 9d. per 62lbs. is pretty readily accepted for white, and 6s. to 6s. 4½d. for fine reds; barley 4s. 6d. to 5s. 3d., oats 3s. 3d. to 3s. 6d., beans 5s. 6d. to 5s. 9d., extra 6s.; flour 37s. to 38s. Millers just now hold back, being full. If we attain to the lowest now, we may look for improved prices as we get nearer spring. Potatoes, although some are spoiled by frost, are good and plentiful, and are largely consumed. Hay very scarce; selling at £7 per ton for prime. Wind keeps shifting back to north and east. We had heavy rain last night; now feeling frosty.—Jan. 20.

SOUTH LINCOLNSHIRE.

A month or more has elapsed since the commencement of the severest blast experienced for about ten years. The intense frost of Christmas Eve 1860 did great damage, and was only a trifle severer than Christmas Eve, 1870. At that time nearly all herbaceous plants, trees, shrubs, and garden plants were irretrievably injured, vast numbers destroyed, amongst them many walnut and similar trees. The wheat plants were strong and did not suffer seriously, but the weaker plants in the lens and exposed districts were injured. We trust the satisfactory covering of snow during the late season has proved a sufficient protection. The blast still lingers—now a frost, now a thaw—making the lairage exceedingly bad for sheep upon turnips. Their food, too, has been icy cold, and almost as hard as a stone. The writer was fortunate in having large plots of cabbage and kohlrabi in his turnip field. To this resort was made with very satisfactory results, proving the safety of such provision in seasons like the past. Upon the whole, sheep have done well throughout the blast, and the casualties not great. The lairage was hard and clean from the deposit of snow, and the best dry food the farm could afford was constantly in requisition. In many cases mangolds, from the graves, were freely used; which, being mixed with the frozen

turnips, formed good eatable rations. Cattle have progressed nicely in the fold-yard. Fatted beasts are making great prices. Store cattle are also very dear. The work of the farm, although forward prior to the frost, is now backward. Thrashing, manure-carting, hedging, ditching, draining, and sundry job work have been the employment. The thrashing has been so general as to cause such abundant supplies as seriously to affect the corn markets, otherwise advances must have taken place. We cannot give any definite opinion upon the growing wheat—many fields are not “yet up”—the forward sowings look rather touched by frost, but not seriously injured. Swedes have nearly lost all their leaf, but the common turnips hold their greenness; neither bulbs are injured to any extent, thanks to their thick covering of snow. Potatoes have kept well, and many have been dressed and sent to market, notwithstanding the severity of the weather. Great caution has been taken for their safety in the railway trucks. Seed is already inquired for, and much is expected from Scotland; a change of great benefit to this district. We are anxiously waiting for the final breaking up of the blast so that ploughing, may proceed, as the land is all dry and in good order.

AGRICULTURAL INTELLIGENCE,
FAIRS, &c.

BANBURY FORTNIGHTLY FAIR.—There were a good many sheep, but the trade was dull, the prices realised being from 4s. to 5s. 4d. per stone. The cattle were principally store, and the business done was at late rates.

BOSTON FAT SHEEP MARKET.—A fair show; trade rather more active. Prices, however, remained same as last week—from 7½d. to 8d. per lb.

BRIDGNORTH FAIR.—There was a small show of stock. Beef made from 7½d. to 8d. per lb., mutton 8½d. to 9d., and pork 7d. to 7½d. Pigs were in good demand, and horses sold well.

DUNFERMLINE MONTHLY MARKET.—The stock was about the average, and consisted chiefly of grazing cattle and milch cows. High prices were got for the cows, several of which sold from £10 to £18 each, and met a ready sale. The demand for store cattle was dull, but a few animals changed hands at from £6 to £13. Several lots were left unsold. In the horse department there was an extra supply of all kinds. Sales were rather dull, but large prices were obtained for good animals. Mr. Wilson, Lochgelly, sold three fair horses at prices ranging from £20 to £36 each. Inferior animals were not in great demand, and at the close many were turned out unsold.

FORRES MONTHLY MARKET.—There was a good attendance of farmers and others, and there was a fair supply of stock of all kinds. There was, however, an almost entire absence of dealers from a distance, and on that account business was stiff. A good many lots, however, changed hands in the course of the day. Fat sold at from 70s. to 75s. per cwt. The following are a few of the transactions: A lot of two-year-old queys at £15, and a lot of cross stots for £15 5s., 4 two-year-old cross cattle at £23 10s., a lot of 4 two-year-old crosses at £19, a lot of 6 two-year-olds for £61 the lot, and 1 at £11 5s., 2 three-year-old lots for £39, and 2 yearling heifers at £29, and a cow at £16, also a cow at £12, 2 polled heifers for £31, a bull for £19, and 2 cows for £27, a quey for £14 15s., a fat cow for £30, a pair of two-year-old queys at £19 each, a lot of bullocks at £23 each, and 5 queys at £18 each, and 2 queys at £29 the pair, a cow at £10, and a pair of calves at £10, a pair of six-year-olds at £26, 4 six-year-olds at £15, 8 cattle at an average of £14 10s., 10 three-quarter-old polled beasts at £22, a lot of 6 two-year-old crosses at £25, a cow at £18. No business was done in the sheep and horse markets.

GLOUCESTER FORTNIGHTLY MARKET.—There was a good supply of fat stock. Trade was languid, but prices

only slightly declined. Beef made 7½d. to 8½d., and mutton 8d. to 9d. per lb.; bacon pigs fetched 9s. to 10s., pork 10s. 6d. to 11s. per score, and all were sold.

GRANTHAM FAT STOCK MARKET.—A short supply of beasts, but very plentiful of sheep. Brisk business done, and a good number of buyers present: Beef 9s. per stone, ewe mutton 7½d., wether 8½d. to 9d. per lb., pork 7s. to 7s. 6d. per stone.

LINCOLN FAT STOCK MARKET.—This was a very large market, there being a large show and many customers. There was no beef sold under 10s. per stone, and mutton was from 8d. to 9d. per lb.

MORETONHAMPSTEAD GREAT MARKET.—There was but a scanty supply of bullocks, and sales were dull. The sheep-pens were moderately filled, with better sales than at the late markets. Beef 7½d. to 8½d., mutton 7d. to 8d., pork 7d. to 7½d. per lb.

NEWARK FAT STOCK MARKET.—We had a good market and many buyers, with prices slightly in advance of last week: Beef 9s. to 9s. 6d. per stone, ewes 7d. to 8d., wethers 8d. to 9d. per lb., pigs 7s. 9d. to 8s. per stone.

SLEAFORD FAT STOCK MARKET.—A good show of first-class fat sheep, which met with a brisk trade. A small show of fat pigs, which were quickly sold. A large show of fat pigs, which realized late rates. Ewe mutton realized from 7d. to 7½d. per lb., wether ditto 8½d. to 9d., and half-breds 9½d. to 10½d., beef 10s. to 10s. 6d., and pork 7s. 9d. to 8s. 6d. per stone.

IRISH FAIRS.—**BANBRIDGE:** In the horse department there was a large muster of cobs and hacks, many of which changed hands at prices ranging between £8 and £25; troopers were difficult to find, and brought, in some instances, as much as £45; few hunters were obtainable, and these were valued at £55 to £75; carriage horses brought somewhat similar prices; and young animals rated from £12 to £25. Horned cattle were not so numerous as was anticipated, nor was the quality very superior. Passable fat beasts realised £16 to £25; strippers, £8 to £14; young stores, £8 to £10. Sheep were freely purchased, many fleshy animals going to the shambles for 65s. to 70s.; inferior, 52s. down.

BALLINASLOE: As pigs are down in the English markets, jobbers were rather slow so invest. Mr. Donnelly, of Dublin, purchased 200 pigs at prices varying from £5 to £7 10s.; 40, at from £3 to £6 10s.; 50 do., at from £6 to £7 10s.; 150 at prices varying from £5 10s. to £6 10s.; Mr. Pat. Coomley, of Enniskillen, 180 at from £3 to £3 10s.; 100 at an average of £6; 80, at £6; 150, at from £3 10s. to £4; Mr. Peter Hunt, of Strokestown, 40 at an average of £4 10s. Several large lots were driven home unsold. The supply of sheep was small, and they seemed very slow in demand; not one-fourth were disposed of. At least one-fourth of the cattle were driven home unsold. The horse fair consisted of animals of a most inferior description, ranging at from £8 to £12. Farmers' nags sold at from £7 to £10. The general tone of the fair may be quoted thus: Three-year-old heifers ranged from £13 10s. to £16 10s., two-year-old from £11 to £12, yearlings from £7 to £8 10s., three-year-old wedders from 50s. to 56s., two-year-old, in middling condition, from 45s. to 50s., hoggets from 36s. to 38s., milch cows from £12 to £16, a top lot of stall-feds at £27, and a second lot do. at £19, 50 heifers at £15, 20 heifers at £13 10s., 30 heifers at £14 10s., and 30 ditto at £14, a lot of stripper calves at £13 10s., 20 two-year-old heifers at £13, and 20 do. at £12 10s., 20 do. at £11 16s.

SLANE: In the beef department several excellent lots were offered, both bullocks and heifers, which sold at fully 7½d. per lb. For one fancy lot of fully-finished heifers £24 10s. per head was received, which might be calculated at 75s. per cwt. in sink. These were purchased for the export trade. Second quality rated from 6½d. to 7d. per lb. The look out for store bullocks was brisk, and all were bought up at an early hour by dealers for the English markets. In every case late prices were sustained, as may be judged from the following quotations: Three-year-olds from £12 10s. to £16 10s., according to condition, two-year-olds from £9 to £13 each, yearlings and stirks from £4 to £9 per head. In the springer department of the fair the supply was not equal to the demand. A few good ones reached £16 to £18 each, inferior £10 to £13 10s. Strippers were also in moderate show, but in first-rate demand, selling from £9 to £14 each, according to merit. In the sheep

fair the trade was slack, exporters not having put in an appearance. Prices had a decided downward tendency, wedders of three and four years old going no higher than 8d. per lb. The swine fair presented no feature of interest, further than a fall in bacon and pork of 4s. to 5s. from the quotations of last week.—**PORTUMNA:** Quotations were about the same as those which prevailed at Ballinasloe and the other fairs recently held in the district. Yearling heifers £4 to £8, two years old £7 to £12, fat cattle £10 to £16, or from 55s. to 62s. per cwt., sinking the offal, inferior cattle from 48s. to 53s., hogget sheep 30s. to 38s., wethers 40s. to 55s., or quoted by the lb. on foot, sinking the offal, from 6d. to 7½d. was paid. A few horses were bought up at an average of £20 to £25. The fair altogether was thin and dull.—**TULLOW:** There was a good supply of fat stock, for which the extraordinary prices of from £26 to £30 were given in some instances for bulls. Beef might be quoted at from 65s. to 75s. per cwt. for first quality; second rate 60s. to 65s. There was rather a small supply of stores, for which very high prices were given. In this class the supply was not equal to the demand. Mutton sold at from 7d. to 8d. per lb., with a small supply. Pork might be quoted at from 42s. to 50s. per cwt. Store and bonhams very dear.

LONDON CHEESE MARKET, (Thursday last.)—Trade having been so quiet from the beginning of the year, we have thought it unnecessary to issue a circular till to-day. The change in the weather is acceptable, as it will no doubt tend to some improvement in the cheese trade. The late extremely cold temperature has affected the quality of most of the cheese held in stock, and made it difficult to sell. We have now a fair demand for really prime, meaty, flaky Cheshire cheese, either full-sized or small, and anything tight and of good quality and flavour in lumps is very saleable. Of these descriptions we shall be glad to receive early consignments. American cheese continue to arrive in moderate quantities; at Liverpool the stock is large. There is a fair amount of business doing in the best factory cheese, and prices are firm. Cheese which have gone off in flavour are very unsaleable. The arrivals reported from January 1st to this date are 76,190 boxes.—**CORDEROY AND Co., Mill-lane, Tooley-street.**

GLOUCESTER CHEESE MARKET.—There was a short supply; about five tons were pitched, and it sold readily at from 66s. to 70s. per cwt.

GLASGOW, (Wednesday last.)—We had a moderate supply of cheese, which met with a better demand at fully late rates.

POTATO MARKETS.

SOUTHWARK WATERSIDE.

LONDON, MONDAY, Jan. 23.—During the past week the arrivals coastwise, by rail, and road have been very large, much in excess of the demand, and a considerable fall in prices has been the result. The following are this day's quotations:

Yorkshire Flukes	90s. to 105s.
Do. Regents	80s. to 90s.
Lincolnshire do.	70s. to 80s.
Dunbar and East Lothian do.	75s. to 90s.
Perth, Forfar, and Fife do.	70s. to 75s.
Kent and Essex do.	60s. to 65s.
Do. do. do. Rocks	55s. to 60s.

ALEX. TOD.

BOROUGH AND SPITALFIELDS.

LONDON, MONDAY, Jan. 23.—These markets have been well supplied with potatoes. With a quiet trade, prices have ruled as under:

English Regents	75s. to 95s. per ton.
Scotch Regents	75s. to 100s. "
Rocks	65s. to 80s. "

COUNTRY POTATO MARKETS.—**DONCASTER, (Saturday last):** A large supply of potatoes this morning, and considering the continued prevalence, of severe frost, a better business was done than might have been expected, prices remaining about the same, viz.: Regents 7s. 6d. to 8s. 6d., rocks 6s. to 6s. 6d. per load.—**MALTON:** Table potatoes were nominally quoted £3 per ton, but there were few offering, the bulk being locked up in the pies by the frost, causing scarcity. At the change of weather prices are expected to droop. Retail 6d. to 8d. per stone. **MANCHESTER:** Yorkshire pota-

toes 10s. to 12s., Scotch 7s. to 9s., Cheshire 6s. 6d. to 9s. per 252 lbs. YORK: Though the supplies, owing to the severe weather, are very limited, business was dull, and no advance in price was obtained. The sales were made at from 7s. to 6s. per tub of 280 lbs. wholesale, and from 5d. to 6d. per 14 lbs. retail.

SALE OF SHORTHORNS AT ELLON.—The first of the public sales of Shorthorns, under the auspices of the Ythanside Farmers' Club, was held at Ellon, Aberdeenshire. The weather was stormy, but there was a fair attendance of agriculturists. Nine breeders signified their intention of offering their stock, and the order of the sale was balloted for. The animals offered were only of ordinary merit, the leading breeders in the county being conspicuous in the sale catalogue by their absence. The stock on the whole being only moderate quality, the prices realized were satisfactory. Mr. Thomson, Greenmyre, got the place of honour in the catalogue for his eight young bulls. These were very equal, and seven averaged nearly £22 per head. They were all after Sittyton bulls. Mr. Campbell, Blairton, offered three bulls and three heifers, and realised fair prices. They were after Kinnellar bulls; and the heifer Modesty, taken out by Mr. Valentine, goes back to the breeder of her sire. She was probably the finest Shorthorn sold yesterday. The Meikle Haddo bulls met a fair sale. They were after the Little Haddo bulls Marmaduke and Prince Louis, bred at Sittyton. The highest-priced animal at the sale was Ythan, in Mr. Mitchell's lot, bought by Mr. Davie, Bridge of Alford, for 37 guineas. Mr. Mitchell's bulls averaged about £24 per head, being £1 higher than Blairton's average. Eleven bulls, bred by Mr. Davidson, Mains of Cairnbrogie, averaged about £23 each, and were chiefly after Billy, a Kinnellar bull. Two of the three bulls from Newseat were after a Kinnellar bull, and the other one after a Sittyton bull. Mr. Thomson had the highest average, being over £29 each. One of Mr. Yule's bulls was inferior in point of quality, and three, belonging to different persons, entered at the end of the catalogue, were not sold. Mr. Mitchell, St. John's Wells, Fyvie, was the auctioneer, and Mr. Copland, Mill of Ardlethen, was judge of sale.

BANBURY HORSE SHOW.—The Twelfth Fair, the annual exhibition of horses took place in the Horse Fair. There were 94 entries. Class 1, for cart horses, was not so good as usual. The prize here was taken by Mr. B. Bradshaw, Newbottle; Mr. Z. Stilgoe, Adderbury, being commended and highly commended for his two horses. Class 2, for the cart mares, was on the whole good, the prize going to Mr. Hawtin Checkley, Wykham. Class 3 brought out some capital cart colts, and Mr. Denchfield was first, with a colt got by a horse belonging to Mr. Cook, of Hanwell, with Mr. Harbage, of Steeple Barton, highly commended. It was not so with class 4, for cart fillies, for which there were only two entries, and the prize was not awarded. Mr. W. Fairbrother, Burton Dassett, was first for the best cart colt or filly in class 5. The classes for the hacks and hunters filled very well, and the result was an excellent show. The prize for the best hunter, over six years old, went to Mr. Samuel Gale, Canon's Ashby, Daventry; Mr. S. Berridge, of Drayton Lodge; and Mr. B. Bliss, of Wardington, being respectively highly commended and commended. Mr. W. Manning, Foxley, Towcester, carried off the prize for the best hunter under five years, Mr. Richard Treadwell, Shalstone, Buckingham, being highly commended. For the best hackney, Mr. S. Blunt, Paulerspury, Towcester, had the prize, and was highly commended for a second entry, with Mr. Langton Bennett, Baycott Farm, Stowe, commended. The prize for the best cob went to Mr. J. E. Parsons, Charwelton, Daventry, and Mr. Prophet White, Shotteswell, was highly commended. Jumping the hunters, which has usually taken place at the Cricket Field, Grimsbury, was not attempted on Monday. The judges were Messrs. Elliot, Heathencote, Towcester; B. Percival, London; Newton, Campfield, Woodstock; and Cartwright, Wolverhampton.

YORK CORN MARKET COMPANY.—On Saturday Jan. 14, Mr. Francis Carr, of Heslington, the principal promoter of the Company, and the erection of the commodious Corn Exchange, took the opportunity, as it was the commencement of the new year, to address a few remarks to the Company on the success of the undertaking, urging at the same time the paramount importance of having a covered market

erected in the city without further unnecessary delay. Having pointed out all the advantages to those attending the market, he said what was wanted was the individual assistance of every shareholder in the Corn Exchange Company to assist in the advocacy of a covered market along with the farmers of the neighbourhood generally. They must urge the Corporation, the tradesmen, and the citizens to provide a covered market, and "agitate, agitate, agitate," until they obtained it. After some remarks from Mr. G. Smart and Mr. Henry Richardson, Mr. Peart moved, "That in the opinion of this meeting, and of the members of the Corn Exchange Company, the erection of a covered market in the city of York by the Corporation is not only necessary but imperatively required." Mr. G. Smart seconded the motion, and it was adopted by acclamation.

THE HARES AND RABBITS.—If our readers want to know what hares and rabbits, and gamekeepers, can do, they should read the report of a case which was heard at Shrewsbury Saturday, Jan. 14. Some time in December, Mr. John Groom, as the assignee of the tenant, Mr. William Harding, entered into possession of Haughmound Park Farm, and soon found, we imagine, that he had made a bad bargain. The ground game attacked his grain crops and his roots to a perfectly appalling extent; and "actually came in droves to the sheep-troughs and ate the meat." The damage to the grain crop alone was estimated by Mr. Brewster, of Balderton, and Mr. Mansell, of High Ercall—gentlemen well known to our readers—at £143, besides the destruction of root crops, which was supposed to amount to £3 per diem. Applications to the landlord brought replies allowing £100 for the grain, but declining to entertain the subject of roots. Under this provocation, Mr. Groom was rash enough to attack the game on his own responsibility, and on the 4th instant his brother, Mr. Thomas Groom, went out shooting. The gamekeepers, however, were on the alert, and no sooner had Mr. Groom pocketed a hare, than, to use his own words, they rushed upon him "like mad dogs" and took the sacred animal out of his possession. This was the case as stated for Mr. Groom, and it was contended by his solicitor that as there was no reservation of the game, Mr. John Groom had a right to destroy it, and that, supposing this was not the case, the proper course would have been to summon him, and not to assault Mr. Thomas Groom. The reply, we suppose, was a satisfactory one in the eye of the law; that Mr. John Groom was not the tenant, and that he had acknowledged the landlord's property in the game by applying for compensation. At any rate the magistrates dismissed the charge of assault which Mr. T. Groom had preferred against the keepers; and Mr. J. Groom must be content to watch the game coming in droves to his sheep-troughs and gnawing all the profit out of his root crops. It is necessary to reflect for a moment or two before one can realise that it is England where a man can be treated in this way. A line, however, must be drawn somewhere, even in matters of justice, we suppose, and in England we draw it at game.—*Oswestry Advertiser.*

EDINBURGH AND GLASGOW WOOL SALES, TANKFIELD, Jan. 14.—The January series opened here on the 10th, and closed on the 13th, with my sale at Glasgow. The brokers here offered collectively about 9,000 bales, of which I submitted 4,000, and about 700 in Glasgow. The attendance of buyers was good, and all appeared anxious to do a trade at former rates, but in almost all classes an advance had to be made, prices having improved with the turn of the year. This was particularly the case in Highland wools, the competition for which being remarkably spirited, both here and at my sale in Glasgow, the result of which is that I am again cleared out of Highland wools, both white and laid. In laid Cheviot there was not much done. White Cheviot wethers of good depth were well sold at an advance on last series, as were also bred and half-bred wethers and crosses. Half-bred hoggs are unusually dull, and lower in proportion to wethers than has been the case for years. Short stapled cheviots continue to attract less attention, but on the whole there seems more inclination to buy than for several months past. Prices may be quoted as follows: Bred and half-bred hoggs 15½d. to 18d., ewes and wethers 13d. to 15d.; Cheviot hoggs 13d. to 15½d., ewes and wether 12d. to 15d.; cross hoggs 14d. to 15d.; laid Cheviots, 7½d. to 10½d., and hoggs up to 12½d.; white Highland, 6½d. to 8d., and washed 8½d. to 9½d.; laid Highland 4½d. to 5½d. per lb.—**ROBERT GIRDWOOD.**

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The intense frost with which 1870 closed dipped into the first week of the new year. Then came an ordinary winter's temperature, followed by great mildness and much wet, which has everywhere saturated the ground and filled the reservoirs. As snow for the most part covered the soil when the cold was most severe, we do not hear of damage done to the wheat plant; but where the root-stores were insufficiently protected much has been lost which could ill be spared. It would certainly have been better for vegetation if we had not experienced these fluctuations, which often do mischief; but let us hope we shall yet escape. Prices of wheat have very little varied, the gain of the first Monday being lost on the second, when the thaw set in; and with this state of things our averages have been in perfect accord, the rise both in London and the country being just 6d. per qr.; so we remain much as the year opened. But the all-absorbing subject is this dismal war, which not only threatens Paris, but all France, with desolation, unless pacific counsels get the uppermost in the minds of the ruling powers. With the poor women of Paris brought down to about a penny loaf a-day, dog's-flesh at 8s. per lb., eggs at 2s. 8d., and potatoes 1s. 6d. per lb., and shells bursting over their heads, the wretchedness of two millions of human beings is too deep to be realized, and England does well in her efforts to mitigate it, though there is yet the danger of its encouraging resistance and exasperating the victors. Already a large demand for oats and flour has sprung up, increasing the value of the latter by 2s. per brl.; and, should there be a prompt capitulation, there may be quite a rush on our London market stores, which happen to be well supplied, and ready for the claim; but to furnish only one peck to each inhabitant of the doomed city will require 100,000 sacks. This would, however, give time for arrivals from all quarters, and be the commencement of the misery's end. The tabulated statement of the *Mark Lane Express*, early sent forth this year, confirmed the general report of the grain crops. In no case do we find a record of excess. With the greatest variety in wheat this crop scarcely comes up to an average; while the stock of foreign in the whole kingdom, on the 31st of December, 1870, was 1,351,548 qrs., with 177,847 sacks 286,972 brls. flour, against 2,024,558 qrs. wheat, 156,160 sacks 327,537 brls. flour in 1869. So that we are now considerably less in condition to render help than then; and beyond this fact we have that of Prussia's crop being only three-fourths of an average, and America reporting less by six million quarters. Now, as France was decidedly short before her recent disasters, we are in no case likely to see low prices this side harvest, supposing things to go on in their usual course as respects the growing crops: but as we can never be sure of these, so probabilities are much more in favour of a further advance than otherwise. The following rates were recently quoted at the places named: Wheat at Antwerp 54s. to 60s., white Zealand at Rotterdam 45s. to 45s.; Hambro' prices were 54s. to 57s., at Stettin 52s., at Danzig 50s. to 55s.; Barletta wheat at Naples 57s.; wheat at Petersburg 42s., at Rostoff-on-the-Don 37s., Berdianski 49s., cost, freight, and insurance; Ghirka, 48s., cost, freight, and insurance; best white at San Francisco 43s. 6d., free on board; at Valparaiso 51s., cost, freight, and insurance; No. 2 Milwaukee wheat at New York 51s. per 480lbs., cost, freight, and insurance.

The first Monday opened on very short supplies, both of English and foreign wheat. Very few additional samples were exhibited on the Essex and Kentish stands. The severe frosts having brought a great quantity of ice on the Thames, navigation was too much impeded for ready sales, but with some improvement in the condition of the samples, factors were able to obtain an advance of 1s. per qr. on the price of the previous fortnight. More was doing in granaried foreign, some holders requiring an advance of 2s., but only occasionally this was paid, 1s. being more generally accepted. With few cargoes afloat on offer, full prices were maintained. The frost still holding on for half the week the earlier markets followed London, and generally reported 1s. advance; among these were Hull, Leeds, Sheffield, Spalding, Sleaford, Ipswich Melton Mowbray, Gloucester, Rotherham, Thirsk, &c., but with the thaw a general dulness came on, causing a decline of as much on some localities on Saturday. The only difference for the week at Liverpool was a decline of 1s. per cental on Friday. Edinburgh was quiet for wheat. The price being attempted to be raised at Glasgow prevented sales. Dublin was only firm for both native and foreign wheat.

On the second Monday there was a very small English supply, but plenty of foreign, two-thirds being from New York. Though only a moderated show during the morning was exhibited on the Essex and Kentish stands, the thaw had materially deteriorated the condition of samples, so sales were very difficult at a reduction of fully 1s. per qr. The sale of foreign also was restricted, the change of weather reducing the readiness to buy, and American sorts could only be sold by accepting 1s. less money. Cargoes afloat were also reduced as much, though but few were offering. In keeping with the altered weather the country markets held early, were this week the dullest, and 1s. decline was commonly reported at the first markets, as at Hull, Leeds, Sheffield, Sleaford, Stockton, Newark, Manchester, Lynn, Louth, Gainsboro', &c., and at Barnsley, prices were down 2s., but subsequently Birmingham and Bristol noted a slight improvement. Liverpool was down 1d. per cental on Tuesday, and recovered on Friday. Both Edinburgh and Glasgow were lower 1s. per qr. At Dublin business was quiet, without quotable change.

On the third Monday there was a better, but only moderate English supply, the foreign being again fair, and consisting of about half from New York. The upward tendency which was evinced on Friday when frost had apparently set in, was lost again on the sudden and complete thaw, and only the finest samples of English could be placed readily at the previous prices. The trade in foreign also became quiet, with less doing, though good American were generally held at the previous rates. Floating cargoes were unaltered in value. Prices in the country this week were not equally down, though the whole period was wet and unfavourable to the condition. The utmost reduction anywhere did not exceed 1s. per qr., and that only in a few places, as at Ipswich, Gainsborough, Stockton, Lynn, Melton Mowbray, &c., while Birmingham and Bristol, as well as some other localities, were rather higher. Liverpool was 2d. to 3d. dearer on Tuesday, but not on Friday. Glasgow was 1s. dearer for American samples, but Edinburgh was dull. Dublin

evinced more firmness both in native and foreign qualities.

On the fourth Monday there was but a moderate supply of English wheat, and only one small cargo from New York. The show of fresh samples during the morning from Essex and Kent was small, and the condition for the most part so bad that millers declined buying, but the few dry prime lots offered were taken more readily than on the previous Monday at fully the rates of that day. The foreign trade was very limited, but really fine red American sold at the previous currency; the higher Baltic qualities and lower Russian were but little in request. The best cargoes of floating lots were taken at unaltered rates.

The arrivals in London for four weeks were 20,827 qrs. English, 50,677 qrs. foreign; against 13,124 qrs. English, 58,427 qrs. foreign for the same time last year. The London exports for the same period were 4,431 qrs. wheat, 22,897 cwts. flour. The imports into the Kingdom for four weeks ending 14th January were 3,077,834 cwts. wheat, 447,665 cwts. flour; against 4,482,495 cwts. wheat, 697,618 cwts. flour in 1870. The London averages commenced at 54s. 6d., and closed at 55s.; the general commenced at 52s. 7d., and closed at 53s. 1d., the increase being only 6d. on each.

In the flour trade but little change has occurred, excepting the enhancement of the value of American barrels through a demand for France. Country sorts have come plentifully to hand, and some have been taken on French account, but the fear of their keeping qualities has limited purchases, while a confidence in barrels on this score has sent up their value during the month fully 2s., and foreign sacks have risen about 1s. In Town-made qualities there has been no change, 47s. remaining the top price all through. Though stocks are fair in London the wants of Paris may soon clear them out. The imports into London for four weeks were 86,311 sacks English, 1,385 sacks 74,153 barrels foreign; against 87,930 sacks English 9,714 sacks 21,769 barrels foreign in 1870. The last quotation for extra State at New York was 27s., cost, freight, and insurance, the value here for French account being 28s. 6d.

Of maize the supplies have continued moderate, and values have accordingly improved 1s., the best yellow being worth 32s. 6d., but it is quoted in New York 34s., cost, freight, and insurance, so nothing can be expected thence till after the opening of the canals, when the new crop will become available at easier rates.

The supplies of barley have continued moderate, both in British and foreign qualities, and there has scarcely been any quotable change of value through the month, fine malting being worth about 41s. per qr., but with a slow sale, and fair grinding about 27s., while Saale barley at Hambro' is worth 41s. to 42s., so with a deficient crop and high prices abroad, little foreign can be expected to interfere with prices; but the demand for malt-liquor all through the season has been unusually slack. The imports into London in four weeks were 13,402 qrs. British, 20,959 qrs. foreign; against 16,812 qrs. British, 37,061 qrs. foreign in 1870.

The malt trade has continued very dull all through the month, but prices have ruled about the same. The supplies of oats for four weeks have been extremely scanty, and were chiefly received on the first week; when, however, the only rise, and that but 6d. per qr., took place. Every subsequent week has gone very short, and yet the mild weather has so influenced the minds of buyers that the demand has been very slack, and prices unaltered, even in the face of a large foreign demand; but the fact is that this demand has been chiefly satisfied from the unusually heavy stores now in granary, which holders have

been glad to avail themselves of. Russian 38lbs. have brought 22s., and Swedes of the same weight 23s.; 40lbs., to 24s. 6d. As our own crop was very defective, and English supplies have been increasingly short, we expect some revival in this trade, especially should France further relieve the granaries. The imports into London for four weeks were 1,478 qrs. English, only 151 qrs. Scotch, no Irish, 89,978 qrs. foreign; against 1,880 qrs. English, 147,582 qrs. foreign last year. The exports from London in four weeks were 30,819 qrs.

The supply of beans has been only moderate, both English and foreign, the former quite as good as might be expected after a bad yield. Prices have been steady throughout, the value of good hard new Mazagans 40s., harrows 43s. to 45s., and old 2s. or 3s. more. The relative cheapness of maize has mainly contributed to keep down values, and seems likely to do so permanently, excepting those years of frost or drought, when this plant suffers in its places of growth. The imports into London in four weeks were 3,782 qrs. English, 2,914 qrs. foreign; against 3,083 qrs. English, 3,479 qrs. foreign in 1870.

Though the supply of home-grown peas to the London market has not been equal to half that of beans, yet so slack has been the demand, especially for boilers, that they have receded in value fully 1s. per qr., and this without any foreign imports. The fact is, the stock in granary is yet heavy, compared with the consumptive demand. Duns, however, and maples have been so scarce that they have commanded fully late prices, the former 37s., the latter 44s., foreign white 35s. to 38s., English 37s. to 42s. for extra breakers. The imports into London for four weeks were 1,786 qrs. only, all English; against 2,019 qrs. English, 6,429 qrs. foreign in 1870.

There have been fair but not heavy supplies of linseed, and prices have been fully maintained, with a good weekly sale for cake.

The late high prices for red cloverseed have not been sustained. During the intense frost farmers thrashed their produce, being tempted by prices; so with better supplies buyers became cautious, and values receded, especially on receipt of some from America, of fair quality. Values yet remain above speculative rates, and the short crop will, no doubt, make the article dear all through the season.

Spring tares have been getting into more demand at full prices—say 36s. to 38s. per qr.

IMPERIAL AVERAGES.

For the week ended Jan. 14, 1871.

Wheat	67,782½ qrs.	53s. 1d.
Barley	63,310½ „	36s. 2d.
Oats	4,703½ „	23s. 5d.

COMPARATIVE AVERAGES.

Years.	WHEAT.			BARLEY.			OATS.		
	Qrs.	s.	d.	Qrs.	s.	d.	Qrs.	s.	d.
1867 ...	66,506½	...	62 3	52,303½	...	44 5	9,175½	...	23 4
1868 ...	52,478½	...	71 6	71,265½	...	42 1	8,710½	...	25 7
1869 ...	70,452½	...	52 8	48,306½	...	49 0	6,316½	...	25 9
1870 ...	49,626½	...	44 1	56,850½	...	36 4	3,862½	...	21 4
1871 ...	67,782½	...	53 1	63,310½	...	35 2	4,703½	...	23 5

AVERAGES

FOR THE PAST SIX WEEKS:				Wheat.		Barley.		Oats.	
				s.	d.	s.	d.	s.	d.
Dec. 10, 1870.....				52	2	35	9	23	7
Dec. 17, 1870.....				52	5	35	4	23	4
Dec. 24, 1870.....				52	7	34	11	23	6
Dec. 31, 1870.....				52	8	34	11	23	5
Jan. 7, 1871.....				52	6	34	11	23	0
Jan. 14, 1871.....				53	1	35	2	23	5
Aggregate of the above ...				52	6	35	2	23	2
The same week in 1870.....				44	1	36	4	21	4

LONDON AVERAGES.

Wheat	2415 qrs.	55s. 0d.
Barley	402 „	36s. 0d.
Oats	35 „	31s. 0d.

in paper. & the size of body & type Lincol. and the rest. These pen at the end of the 1st
Lincoln Votations
I have published by the London & West. at 4. 10. 1844

**THE CHERRY FACTORY,
AT LONGFORD, DERBYSHIRE.**

PLATE V. LINCOLN WETHERS.

THE PROPERTY OF MR. C. LISTER, OF COLEBY LODGE, LINCOLN.

This pen of sheep took the second prize at the Midland Counties Show, and the first prize in the week following at the Smithfield Club Show in last December, when we said "the Birmingham award was very properly corrected in favour of Mr. Lister, who beat Mr. Harris alike for weight, style, and quality." Mr. Lister's sheep are bred from the stock of the late Mr. Charles Clarke, of Scopwicke.

The more modern Lincoln shows a very strong dash of the Leicester, as in fact there are breeders who, it is said, can exhibit the two sorts from one flock; but at the Oxford Meeting of last summer the Lincolns for the first time were honoured with classes of their own.

PLATE VI. THE CHEESE FACTORY, AT LONGFORD, DERBYSHIRE.

At the annual meeting of the Derbyshire Agricultural Society, in December, 1869, Mr. J. G. Crompton brought forward for consideration the advantages of the American factory system of cheese manufacture. It was shown that English cheese, generally speaking, is considered to be deteriorating in quality, and that the American, on the contrary, is rapidly improving in many respects and taking up the lead in some important markets. Hence it became necessary to do something in order to improve our method, or we should soon have to content ourselves with lower prices and diminished appreciation for our own home-made cheese. It was shown that the Americans have improved cheesemaking almost into a science—elevated it into a profession—the results being apparent in the uniform quality, flavour, firmness, and shapeliness of much of their own recent production. These results were considered attributable to the factory system, that is, a number of farmers banding themselves together and sending their milk to some central and suitable place to be there manipulated under a correct method and with convenient appliances, by an experienced dairyman. By this plan, beyond a better article being produced, a great economy is secured both of labour and material.

Subsequently to the one at Derby, several meetings were held in different adjacent localities, in order to place the scheme distinctly and clearly before the farmers. At these meetings the subject was well ventilated, and, as might naturally be expected, many and various objections were brought against it, but they were mainly from prejudice against innovations, or from non-comprehension of the working of the system. These objections were met by facts and arguments taken from sources on which reliance could be placed, and it was eventually determined on to start two factories in Derbyshire, in order to test the applicability of the system to English dairying districts, and to promote its extension. Longford, a village about ten miles west of Derby, having offered the greatest amount of patronage, was selected as the place where one of the factories should be, and an improved commodious wooden building was erected there at the cost and on the estate of the Hon. E. K. W. Coke. Derby also was chosen for a trial, there being many supporters of the scheme in the immediate vicinity of the town, and Mr. Alderman Roe kindly lent a building in Siddal-road for the first season, which was fitted up with the necessary plant, under the supervision of Mr. Cornelius Schermerhorn, who at the same time superintended the

erection of the Longford factory, and afterwards became its manager.

In order to secure the farmers against pecuniary loss should the project be a failure, and to induce them to give it a trial, a large guarantee fund was subscribed to by many of the gentry of the county. Under this fund 6½d. per gallon was guaranteed for the milk, which price is allowed to be equivalent to 77s. 6d. per cwt. for cheese. These preliminaries having been satisfactorily arranged, the two factories were ultimately started under the management of Messrs. Levi and Cornelius Schermerhorn, experienced American dairymen, the Derby one on April 5th, and the Longford on May 4th, 1870. A large bronze plate with the following inscription is affixed to the front of the Longford factory: *The first cheese factory built in England, opened May 4, 1870, under the management of Cornelius Schermerhorn.* The Longford factory is so arranged that the milk may be received at an elevation sufficiently above the milk vats on the ground-floor to enable it to pass into them from the weighing can without further trouble. The weighing can is situate in front of the building, and the milk is poured into it from the outside. Pipes come from the milk vats to the weighing can, in the bottom of which is a plug valve, to which a small chain is attached coming to the top. When each producer's milk is weighed the valve is opened by means of the chain and the milk passes directly into three vats below. These vats are 15 feet long, 8 feet 9 inches wide, 19 inches deep, and each holds about 600 gallons. The vats consist of an outer case of wood with a lining of strong tin, leaving a space all round and underneath of about two inches wide. When the evening's milk has been received, and pretty equally distributed among the vats, taps are turned on and the spaces filled with cold water, which is running all night, in at one end and out at the other of each vat. Good cold water is very essential to the success of a factory. The water from one of the vats, as it passes out, is conducted by an india-rubber pipe to a miniature water-wheel in the floor to which the "agitators" are attached. This is an ingenious arrangement. The agitators float on the surface of the milk all night, and, by keeping it in motion effectually prevent the formation of cream. The richness, by this means, is all retained in the cheese, and, as there is very little cream on the whey in this method, the "skimming-dish" cannot be said to have robbed the cheese. Part of the butter gathered from the whey is used in rubbing the outsides of the cheeses in the curing rooms, the remainder sold. Morning and evening when the milk is weighed each producer receives a check ticket mentioning his weight of milk in pounds, and the date. When the morning's milk arrives it is added to the evening's pretty equally, and the cold water is replaced by steam from a 4-horse power perpendicular boiler, which stands conveniently in one corner of the room. It is, however, thought that the boiler would be better outside the building, as it makes the room over warm in summer-time. The whole mass of milk is now raised to a

temperature of 80 degrees, more or less, according to the state of the atmosphere, when the rennet and the annatto are added. In the course of an hour or so, when coagulation is sufficiently advanced—that is, generally speaking, when the curd breaks cleanly over the finger—the curd knife (an instrument about two feet long, containing thirty sharp steel blades, set one-third of an inch apart in a frame) is passed to and fro about the mass, cutting the curd into small particles. Steam is now turned slowly on again, and the curd turned gently about by hand, so as not to crush it, for at this stage it is tender, and crushing would release some of the fatness. Gradually, as the whey separates itself, the curd particles harden and toughen, and the whole is kept stirring by curd rakes, until a temperature of 100 degrees is attained. Steam is then turned finally off, and the curd left in the whey until a slight acidity, which is generally two or three hours in developing itself, is perceivable to the smell and taste, when the greater part of the whey is drawn off by a syphon, and passes into the whey tanks, where it remains until what cream there is in it has risen; afterwards it is carted away by the farmers for pig-feeding purposes. The curd is now dipped—that is, one end of the vat is lowered some six inches to form an incline, a "gate" in the end of the vat is opened, and the curd passes into the "dry vat," which stands on a floor some three feet lower than the one on which the milk vats stand: this is called the "drop system," and obviates much lifting. Through the false bottom in the dry vat the remainder of the whey soon drains from the curd; which done, the proper amount of salt—two or three pounds per cwt., according to the season of the year and the state of the curd—is added to, and well mixed with the curd. The salted curd is then measured into the hoops or press vats, and is at once placed in the presses which stand in a row close by. A pressure of some two tons is applied for an hour or two, after which the cheeses are taken out of the hoops, "bandaged," put in again, and a much heavier pressure applied. The bandages are of thin calico, and serve to protect the cheeses while they are curing and on removal. The following day the cheeses are taken to the curing rooms, when they are ranged on benches and dated. The temperature of these rooms is maintained at about 70 degrees, and the cheeses are turned over now and then while they are ripening for sale. The entire process is very simple, free from hazardous complication, and all the labour possible is dispensed with by ingenious and convenient arrangements. During the past season about 2,750 cheeses, each weighing about 56 lbs., have been made at the Longford Factory. The largest amount of milk received in one day was 14,200 lbs., or 1,420 gallons; the largest number of cheeses manufactured 23. The average number of cows has been about four hundred and fifty. The prices hitherto realized for the cheese vary between 82s. and 100s. per cwt. In a factory of this size two good hands, in addition to the managers, are considered sufficient.

On the left of the engraving the three milk-vats are

shown. The whey is being drawn from the nearest one by the syphon. The screw-presses are ranged on the right-hand. A strong wooden "follower" is placed on the cheese in each hoop, and on this the presses are tightened occasionally, as the cheese shrinks by the pressure into smaller compass. On the same floor with the presses the dry vat is shown in the act of receiving the curd from the milk-vat. The pipes which convey the whey to the tanks are placed under that portion of the floor on which the milk-vats stand; but it may be questioned whether flexible guttapercha tubing would not be better in some respects. An economy of room might also be effected by having ordinary cheese-shelves instead of the benches in the curing rooms.

There can be very little doubt in the minds of those acquainted with it that the factory system, that is, concentration, is the best and cheapest on which cheese can be made; but it is open to some doubt whether the particular mode of manufacture carried on at Longford and Derby during the past season is the very best that can be practised in England. Of course the two factories were started experimentally, and in this sense may be pro-

nounced successful; but the cheese they have produced as a copy of American, perhaps is too much so. The opinion is held by some that a modification of the American method, so as to secure a flavour nearly approximating to the best English dairies of each particular district in which a factory is situate, would be an improvement. Thus the distinctive flavour and character of English cheese would be retained. It is also thought that the size and shape of the American cheese may be wisely departed from. These problems will undergo a practical solution during this year with, most probably, beneficial results. On the American method the cheese is made for earlier consumption than most English. It is ready for market sooner. It is *drier*, which is more profitable to the consumer, and as an article of food cannot be pronounced other than very good. In order that factories may be completely successful, the article produced must equal, if not excel, the very best home dairies in flavour and quality. This result may, and ought to be, attained. That done, the community at large will be much benefited by having the cheese average raised to the level of the present best, and by diminished cost of manufacture.

THE WOMAN'S KINGDOM.

An amiable gentleman down in Herefordshire, who calls himself a landlord, and who is something more than suspected of being a priest, has been sneering in print for months past at his own neighbours the farmers, and more recently at their wives and sweethearts. "Ah, Hodge," quoth this reverend man, addressing the labourer, "I wish I could see you, too, set up with a Broadwood, or Collard and Collard," the desire thus expressed being of course a clumsy hit at the tenant of the land for presuming to have a piano on his premises. Now, the sooner this sort of thing is cleared up the better, as our actual progress may come to depend in no small degree upon the position which the farmer and his family are entitled to take. Are they to be considered in intelligence and education but just above the labouring classes, as immeasurably inferior in anything like refinement and accomplishments to the tradesman's daughters or the young ladies at the vicarage? It would certainly almost seem so. At the Farmers' Club the other evening a county member said, speaking to the question of cheese factories, that if these were established the farmers' wives would be deprived of their "little enjoyment": that is, their attendance at the annual cheese fair, where they went to sell their wares "as smartly dressed and as jolly as anybody ever was at a fair." Surely for the nineteenth century this is a somewhat humiliating picture! Is it really to be understood that the farmer's wife has now no higher views, but is the rather willing to submit to a deal of daily drudgery for the sake of a holiday at a fair? where she will stand in the open

street or market-place to haggle and chaffer, dressed out in all her finery, and revelling in such "little enjoyments" as the occasion may offer.

Let us look for a moment on the reverse side of the picture, for it cannot be always fair time. In this very same county, then, the farmer's wife makes cheese twice a day, beginning at five o'clock in the morning, and with the work not over until nine, ten, or even eleven o'clock at night.

Work, work, work!

When the cock is crowing aloof,

And *work, work, work!*

When the stars shine through the roof.

Can it be for a moment maintained that any respectable or reasonable woman would willingly be bound down to such slavery for life as this by the prospect of an outing once a year or so at a fair? And here be it understood that we would wish to regard this question of cheese-factories as one coming altogether within the Woman's Kingdom, as we are almost inclined to regret that ladies were not invited to take part in the discussion at the Farmers' Club. The business is one peculiarly their own, as the proposed reform should interest them all alike. The smaller the holding of course proportionately smaller will be the establishment and the greater the labour of the good wife herself; while on the larger farms the mistress who may have some "touch" on a Broadwood, or who may find some "little enjoyment" in mental culture, has often enough to descend to mere menial's work from the difficulty of obtaining a good dairymaid.

The farmers themselves are fast coming over to this movement, as the experiment in Derbyshire is already a success, while it will be the fault of the farmers' wives if these factories be not rapidly extended. We do not hold to the slightest faith in the attractions of fair-day, as country fairs of this kind are going fast out of fashion, and there is a certain feeling now growing up once more against the statute or hiring fairs. Such coarse revels are at best but relics of an age passing away, and there is scarcely a district but in which these anniversaries are dropping off. When, however, the wife faces her husband with the mournful intelligence that the "old" dairywoman is going to be married, or that the "new" dairywoman won't do, and proceeds to suggest that they should put their cheesemaking out, she may naturally anticipate the reply—Will the new system pay? The whole tenor of the debate at the Farmers' Club, and no where else previously has the subject been considered so closely, went to say that it would. There was not an objection but what was met. One speaker, who made the extraordinary assertion that there was a strong popular feeling in favour of smaller farms, admitted that so far the factory plan would be useful, but that the principle could not be applied in districts in which the dairies were large; whereupon Mr. Jackson, one of the best authorities in one of our best cheese-making counties, expressed his concurrence in the remark that the factory system would be very advantageous to small farmers; but "he was convinced that it would be found of still greater advantage to large farmers—and the whole tendency of agriculture was to make farms larger, and better cultivated." Of course it is, as everybody knows who knows anything of the subject, although this may probably not be the case with a couple of cockney mechanics who are airing their ignorance in a west-country railway carriage. Then, the quality of the cheese is often improved, and its price enhanced; but we would the rather refer the ladies at once to Mr. Coleman's very straightforward paper, the points of which we would

have them to get off by heart, and then to go in a body as a deputation to the landlords, asking them to follow the example of the country gentlemen in Derbyshire, and emphatically protesting against the collateral argument that they think so much of being "smartly dressed," and being so "jolly" at the fair. As we take it, they would infinitely prefer being saved all "the bother" of cheesemaking, if even at the sacrifice of "the little enjoyment" consequent on selling it.

Still, if the wives were relieved of this unwomanly employment, they "would not care how the cows were milked, or whether the cows were clean or dirty, or well or ill cared-for." But why? The more milk the cow gives, the better she is milked, precisely the greater the return, whether the cheese be made up at home or abroad. As for the cows being well or ill cared-for, or being clean or dirty, with all due deference, we shall maintain that this is scarcely woman's work at any time, and certainly not that of a respectable farmer's wife, who in the afternoon is "as well dressed as any lady could desire to be." We must admit that we can hardly make this out. According to Lord Vernon's statement, which nobody ventured to question, the farmer's wife, even in this very Arcadia, is making cheese the first thing in the morning and the last thing at night, and yet she is to be seen dressed like a lady in the afternoon, "happy and comfortable-looking." In Goldsmith's delightful comedy the story turns on the heroine dressing like a woman of fashion in the forenoon to please herself, and like a barmaid or better sort of servant, to please her father in the evening. So with the Wiltshire farmer's wife, who is a lady in the afternoon and a drudge in the evening; or, like Cinderella, who so soon as she hears the clock strike flies from her friends, pulls off her finery, and turns again to scrubbing and toiling. But at the good fairy's instance there is a gallant youth quickly coming to her succour; while this young Prince, whose eloquence is toned to something of a Yankee cadence, is a Lord of companies and factories, as Merchant Princes often are.

THE FARMERS' CLUB.

ENGLISH CHEESE FACTORIES—HOW TO ESTABLISH AND HOW TO MANAGE THEM.

The first meeting of the Farmers' Club for the present year took place on Monday evening, February 6, at the Club Rooms, Salisbury Square, Mr. J. B. Spearing, of Kelburne Lodge, Hirst, near Wokingham, the Chairman for 1871, presiding. The subject for consideration was "English Cheese Factories—how to establish and how to manage them," the introducer, Mr. J. Coleman, of Park Nook, Quorndon, Derby.

The CHAIRMAN said: Gentlemen, as this is the first time that I have had an opportunity of addressing you since the committee did me the honour of electing me to fill the chair, it may not be out of place for me to make a few brief remarks before we proceed to the business of the evening. The subjects which the Committee of this Club have selected for discussion during this year are, I believe, of a most practical and important nature, and they are placed in the hands of gentlemen who will, I am sure, do ample justice to them (Hear, hear). Those gentlemen are, in fact, so well known to all of you that I need say no more on that point. I hope that the coming season will be more profitable and prosperous as regards agriculture than the last two or three seasons have been. The last one has been especially trying to most farmers in all parts of the country (Hear, hear). I hope that the same good feeling which has always characterised our meetings will continue to pervade the discussions. The subject for consideration this evening is "English Cheese Factories—how to establish and how to manage them;" and I feel that I cannot do

better than at once introduce to your notice Mr. Coleman, who I am sure will handle this question in a very practical manner. This subject has not been altogether lost sight of by the Club in preceding years. We have had before papers on dairy management. I find that in March, 1868, Mr. Jackson read a paper on the following question: "Would not the make of English cheese be generally improved by the introduction of cheese factories?" That question has, I believe, been practically answered in the affirmative, and Mr. Coleman is about to show us how to carry out this object (cheers).

Mr. COLEMAN then said: I have been asked to lay before this Club the experience of the past season, in the introduction of cheese factories into England, and as I have taken an active part in the management of the Longford Factory, in Derbyshire (which factory is the first that has been erected in this country), I will do my best to explain the subject; but I must remind the Club that the past year has been an experimental one, and we could not expect to overcome all difficulties in one season, and that season, as all farmers are aware, a very peculiar one. I wish to remind my hearers that we have been engaged in conducting an experiment *in public*—a circumstance which has been decidedly against us; but I will, as far as I am able, lay before you the history of the movement, and leave you to draw your own conclusions upon the subject. I shall allude principally to what has been done at the Longford Factory, a view of which I

have before you, and endeavour to explain the *modus operandi* of cheese making; but, not being a practical cheese maker myself, or even a dairy farmer, you must not question me too closely upon all the technical parts of the subject, or I am afraid I shall break down. The introduction of the factory system into Derbyshire arose in the following manner: In September, '69, the committee of the Derbyshire Agricultural Society, at their dinner, upon the day of their annual show, determined to strike out of their toast-list all, or nearly all, the usual complimentary toasts; and when some of us, who were members of the committee, submitted the list to J. G. Crompton, Esq., the chairman of the day, the first remark he made was, "What am I to talk about? You have taken all the usual toasts out." In answer to this, one of those present replied, "We want cheese factories established, cannot you mention it in your speech and stir both landlords and farmers up? as the Americans will soon beat us out of our own markets if we do not make a move." After some talk upon the subject Mr. Crompton agreed to do what he could, and to that after-dinner speech we owe the introduction of cheese factories into England. I am particular to mention this fact, for there seems to be a notion abroad that a dinner of agriculturists never does any good; and some of our leading societies ignore such a proceeding, but if they will follow the example of the Derbyshire Society and have a practical chairman, and business (not complimentary) speeches, much good will often come out of such meetings. Now comes the commencement of work, and a meeting was called of the members of the Derbyshire Agricultural Society, and a very large attendance was the result, clearly showing that there was a feeling amongst the farmers that something wanted doing, and from the attendance of gentlemen and landowners the meeting augured well for the movement. At this meeting a committee was appointed, and a guarantee fund decided upon, which in a few weeks amounted to upwards of £4,000, showing that the landowners and gentlemen were alive to their part of the work. Rules were now drawn up, different districts canvassed to know where the requisite quantity of milk could be had for the working of a factory, and many minor points decided. The guarantee fund was established to ensure the farmer who sent his milk to the factory a fixed price for his produce, so that in the event of the cheese made in the factory being amiss, or bad in quality, he might not suffer, and the price which he has been paid is 6½d. per gallon (of 10lb.) for his milk, and he has had the whey besides, after the cream has been taken off for the purpose of making butter, and any surplus after paying working expenses is divided *pro rata* with the farmers who supply the milk. The next thing that was settled, was that we must have a town and a country factory; the town one for the accommodation of the public who wished to see the process, and the country one for making a full and fair trial of what could be done. This being decided upon, and Derby being chosen as the situation for the town factory, and Longford for the country one, we had to set to work, as we had at Longford an entire new building to erect, and only about six weeks to do it in; this, however, was accomplished, thanks in a great measure to the exertions of the Hon. E. K. Coke, upon whose estate the factory is situate. Mr. Coke took such a personal part in the direction and management, that every one was bound by his example to do his best. The Derby factory, which is an old building, was at work in April of last year. As soon as we decided upon a factory or factories, the question arose of who was to manage them, and we found we had no Englishman of sufficient experience for the task, and after consulting with Mr. Hayes, of Cary and Co., London, it was decided to have an American manager, who should overlook both factories, and one was immediately telegraphed for. I must here remark, that we are very much indebted to Mr. Hayes for the very valuable assistance he has afforded us, and I think I may go so far as to say, that without his sound advice and great assistance, we should have been in a fix, and I am not sure that we could have got out of it without great loss to all concerned. In February of last year Cornelius Schermerhorn, the American manager engaged for us, came over, and brought with him some of the implements they use in America in the factory; but not one of our oldest cheese makers could understand the use of them; and we were quite at sea as to how to go to work to fit up a factory, but luckily we found Schermerhorn so well up in all the details of the factory system, and having such an intimate knowledge,

not only of the manufacture of cheese, but also of the arrangement of the building, that we soon had things into proper shape, and looked like work. We were also much indebted to the assistance rendered us by Mr. Giles, architect, of Derby, who was the architect of the Longford factory, and who has made the plans now before you. Mr. Giles gave his services gratuitously, so that you see farmers and landlords were not the only ones who helped the movement. The Derby factory started some weeks before Longford, in consequence, as I have said, of its being located in an old building, and was therefore sooner fitted up. As soon as work commenced we found that for one manager to conduct two factories 10 miles apart was impossible, and therefore the guarantors (or subscribers to the guarantee fund) were called together, and they decided to send for a second American manager rather than be beaten, and Schermerhorn's brother was sent for, and in due course arrived, he taking the management of the Derby factory, Cornelius Schermerhorn going to Longford. I may here mention that the Derby factory works up the milk of 300 cows, and the Longford of 500. The factories have been managed by a committee composed of subscribers to the guarantee fund, and some of the suppliers of milk, who have conducted all the business of the two factories, and made rules, effected sales of cheese, and managed everything concerned; and this plan has worked extremely well, and everything has gone on as smoothly as possible, and completely refutes the notion that some persons have, that farmers cannot combine for any purpose. I will now proceed to describe the Longford factory, drawings of which you now see before you. The factory is built of wood, and covered in with asphalt felt, and is placed close to a road, and also a stream, and the receiving-house (A on the plan) is where the farmers deliver the milk, when it is poured by their men into the weighing-can (B), and after being weighed and a ticket of the weight given to the man, it passes down the milk-pipe (C) into the milk vats (D), which stand upon a lower floor, and which are so constructed as to enable us to heat the milk by steam, and to cool it by water, as they have an inside lining of tin and an outside case of wood; the space between the two being that which is used for the introduction of either steam or water, as may be required. In the hot summer months as soon as the milk reaches the vat, cold spring water at a temperature of 52 is turned on, and the animal heat which the milk contains is soon got rid of, and the temperature of it brought down from 94 or 95 to 60, or thereabouts, at which it remains all night. I must now describe the agitators, which are used for the purpose of keeping the surface of the milk in motion during the night, to prevent the cream from rising; this is a most important matter, and one which requires very nice attention. The agitators consist of pendants of wood, with floats attached to them, which floats rest upon the surface of the milk in the vats; these pendants are fixed on a horizontal shaft, and at the end of this shaft is an arm, which is moved by the water-wheel (E), which wheel is worked by the water after it has left the milk vats, and has done duty in the cooling process, and it is now made use of as a motive power for the agitator; a very small quantity suffices for this purpose, and we are perfectly satisfied with the result. I will here remark, that it is very necessary to have cold spring water; in fact, I may say, you cannot make good cheese in hot weather without it. The water is left running through the vats all night, and in the morning the milk fresh sent by the farmers is added, which brings the evening's milk up to the proper temperature, for the reception of the reunit. Now, as I am not a practical cheese maker, I must be excused from going into the exact details of the manufacture, but I will leave that to those who possess more practical experience than I do. When the milk is fully coagulated, and at the time the manager considers best, the curd is cut with the knives being passed gently through the mass. This is done three ways, so as to divide the curd into small cubes. It is then well stirred with rakes made of wood for the purpose, and steam from the boiler is turned on, and the temperature raised to about 100 degrees, or more if thought necessary, and the mass is kept moving. When the curd has been sufficiently cooked (as we term it), the whey is drawn off by means of a syphon, and run into a reservoir, where it remains 48 hours; and the cream, which in that time rises to the surface, is skimmed off and made into butter. After the greater portion of the whey has been, as I have said, drawn off by means of a syphon, the vat is then tipped up, and the discharge port at the end opened, and the curd

and what whey remaining in the vat passes down a spout into the dry vat (F), which stands on a lower floor than the milk vats. Here the curd is turned by hand, salted, and measured into the moulds, and then put into the press (G). It remains in the press until all the vats in the factory are emptied; and then the cheese, as we must now call it, is taken out of the mould or hoop, and has its jacket or cloth put round it, which cloth is of a similar material to that which the Americans use, and is known to all of you. The cheese is then put into the press again, and remains there until the following morning, when it is taken out and passed to the curing room above, and remains there until ready for sale. Such is an outline of the mode of manufacture, and with a boiler (H) for steam purposes, and spring water for cooling, we can bid defiance to any weather, and make good cheese under any circumstances, that is always supposing that we get sweet pure milk delivered at the factory. The delivery of the milk requires close attention, and if it can be cooled down a little in hot weather before leaving the farm-yard, so much the better. I would recommend that two sets of milk-cans be kept and cleaned at the factory, so that the farmer has nothing to do with the cleaning of the milk-tins, but that a clean set be ready for all suppliers of milk to take back twice a day. This we have not yet come to, but I am convinced we shall some day; for if the farmers have got rid of their dairy-maids, who have they that can clean their milk-cans properly? and mischief often arises from this cause. The distance milk will have to travel has been thought by some to be against the factory; but one gentleman, James Brough, Esq., who is both a guarantor and a milk-contributor, has sent his milk nearly five miles, and as he is very particular and has it cooled before starting, it has reached the factory in almost the best condition of any—even in the hottest weather of last year. I will now endeavour to contrast the cost of this method of cheese making, with the present farm-dairy plan in vogue in this country—and I am here open to criticism—but I will state my calculations in such a way that any farmer can see for himself where I err, and how much I am in error; and as the economy of labour is one of our vital points, I shall be glad to hear what any farmer present may have to say upon the subject. I will take a factory of 750 cows, which is the best number, as far as we at present can judge, to work up together. Now suppose this number made up of 30 dairies of 25 cows each (which is above the average in Derbyshire, whatever it may be in other districts), one skilled dairy-maid is employed in each dairy—so that 25 are so engaged, or the farmer's wife takes the place; and at any rate it is proper to value the labour of the wife quite as high as that of the hired servant, and therefore the calculation remains the same.

30 FARM DAIRIES OF 25 COWS EACH.		FACTORY OF 750 COWS.	
	£ s. d.		£ s. d.
30 Dairy Maids;		1 Manager.....	150 0 0
wages, £15 per		2 men, 40 weeks, at	
annum.....	450 0 0	£1 per week.....	80 0 0
Board of ditto, £20		2 lads, 40 weeks, at	
per annum.....	600 0 0	12s. per week.....	48 0 0
		Extra help.....	22 0 0
			<hr/>
			300 0 0
		Gain by Factory.....	750 0 0
			<hr/>
	£1,050 0 0		£1,050 0 0

This calculation gives £1 per cow saved in labour only; now, I have asked many of our Derbyshire farmers what their cheese, with all hired labour, costs them to make, and their estimate varies from 7s. to 8s. per cwt., and if we reckon 4 cwt. per cow as a good average of cheese for one season, this puts the labour at 30s. per cow, whereas in the factory it is less than 10s. I see in the *Mark Lane Express* of last month a Wiltshire farmer says he has to give his dairy maid £20 a year, so that I am quite under the mark when I have fixed the wages of a good dairy maid at £15 per annum, and I do not think such a person can be kept in a farm house for 1s. per day. The factory labour will be no more than I have stated, and if I err, it is in estimating the cost of the present mode of farmhouse manufacture; but this farmers can calculate as they please, and I do not wish them to accept my figures as conclusive. Besides the gain, or saving rather, of £1 per cow per annum there is another very great source of profit, and this is the better quality and the greater

uniformity of cheese made; and I am quite sure that we can command a much higher price than the average of farm dairies can make. I have as near as possible ascertained what our milk suppliers at Longford averaged in 1869, and I find it was 73s. per cwt. of 120lbs.; now, if we allow 3s. as being the difference in value between 1869 and 1870, their average this year would be 76s. As far as the factory cheese has been sold this year the price is 80s. (and, having all the best of our cheese now on hand, we hope to make even more of what remains), this is 4s. above the average of the farm-house plan, and this for a first season, and such a difficult one too! These facts must prove to anyone that our movement is a right one, and only wants to be known to be adopted. We hope to make on an average quite 5s. per cwt. more of the factory cheese than can be made in the farm house (with the exception of isolated cases), and this adds another £1 per cow per annum, or £1,500 a year, clear gain, upon a factory of 750 cows. Some of you may doubt these calculations, but come and see what we are doing as soon as the season commences, and depend upon it you will soon be of our way of thinking. The actual labour at the Longford factory, without reckoning the American manager, has been only £76 7s. 9d., and upwards of 60 tons of cheese have been made. Take the make of English cheese at about 100,000 tons, and save £10 per ton in manufacture and improved quality, there is just a Million to go into the farmers' and landowners' pockets. Some of you may say that I have not named the delivery of milk at the factory, but this you will find a very inconsiderable item when three or four farmers join together for the purpose. Mr. Lownes, of Longford, with a dairy of 44 cows, joins with two of his neighbours, and the cost to him is 4s. per week, or £8 a season of 40 weeks, the utmost duration of the cheese-making season. Not only is the cost of labour much less by a factory than by private dairies, but there is a very great saving by the wholesale purchase of all the articles which enter into the manufacture of cheese; for instance, in our own home dairy I find our bailiff has paid 10s. 6d. per dozen for eirning skins, for which we in the factory have given but 6s. 6d.; annatto, if used, is the same; only one fire to keep up instead of 30, so that the saving in fuel is something considerable. In fact, turn which way you will, you have the same result as is derived from manufactories on a large scale of any article—the more is done, the less the cost. I have made very minute calculations of the actual economy of a factory of the size I name, but I do not think one year a sufficient test, as we may find it necessary to increase our working staff; for we here in England cannot afford to sacrifice the quality of our cheese for the sake of an extra hand to bestow more labour, if necessary, upon its manufacture. I think I have now said enough upon what we have been doing in the past season in Derbyshire, and I will therefore pass on to the establishment and management of factories which landlords, farmers, or others may think proper to start in districts beside our own. Some present may say we in Derbyshire cannot claim the merit of being the first to draw public attention to the want of a factory for the English dairy farmer. This I am quite willing to allow; for I hold in my hand a paper read by Mr. James Howard, M.P., before this Club, in November, 1866, on "Things in America," in which he says: "Dairying is an important branch of rural economy in America. A very novel feature is the introduction of the factory system. In Oneida Co., N. Y. S., there are about 40 cheese manufactories, or 'Associated Dairies' as they are called, having 16,000 cows. I have only time to glance at this subject. The advantages claimed are that the farmer's family is relieved of a good deal of drudgery—that by the employment of a skilful superintendent a more uniform and better quality at less cost is obtained, and, of course, higher prices realized. Messrs. Moore, cheese merchants in Buffalo, told me that for two or three years past their shipments of factory cheese had commanded the highest prices in the Liverpool market." His remarks, as far as they apply to the drudgery of cheese-making in a farm-house are quite correct; and I am sure some of my Norfolk friends would not call us farmers at all but slaves, particularly the female portion of the household. In establishing cheese factories in future, there are two modes which present themselves to our notice: one is the co-operative plan (which to some degree we have adopted in Derbyshire), and the other is the purchase of milk by an individual—who runs all the risk of loss or gain by the manufac-

ture of the milk into cheese. The co-operative plan is the one which we must depend upon for the factory system in its infancy: for this reason, viz., that I find not one farmer in twenty knows the value of his milk, and therefore he will be unwilling to dispose of it at a price which any one could make it answer his purpose to give; and another reason is, that if any one does so purchase milk, it requires a large capital besides what the farmer has employed in his business—and the use of this capital must be paid for, and would form a stiff item of expenses. By the co-operative plan, the farmer who supplied milk, would receive his share of the money made by the sales of cheese; and I must say, no one engaged in agricultural pursuits makes so quick a return—for no sooner has the cow consumed the grass, than it is in the milk-pail, and at the factory, and in six weeks or two months from that time, it may be in the market as cheese. Therefore there is no necessity to introduce a middle man with capital, who would only want to share the farmer's profits; and, small as they are now-a-days, this is quite needless. My advice therefore to those who think of starting factories is to make them co-operative; and I don't see why farmers in other districts cannot pull together as well as in Derbyshire—at any rate, they may if they try, and I think I have shown that the trial is worth making. I will now notice some points which when your factory is started require attention; and the first is to mind that you have an efficient manager, or as good a one as you can get—for if you have 500 cows only in a factory, you are dealing with from 80 to 90 tons of cheese per annum (at the lowest estimate). This, at present prices, means above £7,000 worth; so you see you have a large quantity of a very ticklish commodity, and you must be careful into whose hands you put the management. I am aware that we have very few Englishmen who are capable of running a factory; but as far as we can in the Derbyshire factories, we are willing to teach a young man or two who may wish to learn; and then they must act as tutors to others when factories are started in fresh neighbourhoods. Your manager having been secured, the next thing is to have the right sort of hands under him—young men who can move about quickly and turn work off while some would be looking at it. These must be under the orders of the manager, who will at all times have to be responsible to a committee of management (if there be one) for everything that goes on in the factory. I think some may fancy the disposal of a large quantity of whey a stumbling-block to the factory system: we thought it so at starting, and I cannot say we have quite satisfactorily settled it yet. Our milk suppliers have a certain quantity allotted to each of them, and their water-carts are branded with their contents in gallons, and they send once or twice a week, as the case may be for their share. This has worked pretty well, but has its disadvantages; and one is that at hay or harvest time, and other busy seasons, they sometimes neglect to fetch it away, and this causes loss. The only way is to have proper piggeries at or near the factory, and the consumption of the whey made part of the business of the concern. Each milk supplier can send straw for bedding in the proper proportion, and take back his share of the manure made; this would reduce haulage to a minimum, and make the most of the whey, which will more than pay the working expenses of the factory by the butter that is made from it, if the same be properly attended to; and it is to all such small matters as these, as well as cheese making itself, that the factory manager will have to pay attention; for the many little, that a farmer does not think much of, will amount to a considerable item when seen through the 500 or 750 multiplication table of the factory. Having now finished my remarks upon the subject as it stands upon the card, I will notice a few of the reasons why cheese factories should be established, and who are the persons that would derive benefit from them. I am hearing every day in Derbyshire of the great dearth there is of good dairymaids, and that it is impossible to have the cheese made as it should be, unless the farmer's wife herself attends to its manufacture; and I may say, that in many farm houses the wife has but a hard life of it, and that her children come second to the cheese; this is not as it should be, and I hope we shall have the ladies with us in the movement. Cheese making is not fit work for women, and it very often does them very much harm, from the very bad accommodation the farmhouse dairy very often affords; and in America, as Mr. Howard says, they would not put up with its drudgery; no more will

English farmers' wives when factories are started, and I have no doubt the next generation will wonder how their grandmothers managed to make cheese as well as attend to their other duties, now just as we wonder how our corn would all be thrashed by the flail. You may depend upon it, that when once the farmer has got rid of cheese making from his house, his wife will take good care that she does not have it back again, and small blame to her either. Ever since I have been in Derbyshire I have been finding fault with the mode of farming—it is in general a poor and an exhaustive one, and I have blamed our farmers for not putting manure upon their pastures, but saving all for their meadows; and I have been told over and over again that if they manure their pastures *they will spoil their cheese*. Now, this may be the case or not, but at any rate if it is we must by the help of science in the factory get over it. From what I see of our dairy land in Derbyshire, I am of opinion that it produces less than it did 50 years ago, and in many places is even now going backwards; for we all know that if a dairy of cows form the sole stock on a farm, and have little or no purchased food given to them, that they must soon take the heart out of the land they are kept on, and I have no doubt many practical men will bear me out in this opinion. Another thing a cheese factory will do is, that it will bring more capital on to our dairy farms; and this we want very much, as many of our men are but nominees of the wealthy cheese factor, who advances them money before the cheese is made, and of course fixes his own price when it is for sale. A man of fair standing and ample capital will not have cheese-making in his house, and consequently declines a dairy farm, and looks for a grazing one. I have had an instance of a tenant who has lately taken a farm on the estate of which I have the management, who, although knowing that grazing would not pay near as much as cheese-making, yet preferred the former simply because he had no one but hired servants to attend to his cheese. Landowners who have estates in dairy districts ought to do all they can to establish factories, for if the tenant receives an immediate benefit, we know who will soon participate in the gain; and although there is no need to raise rents now a-days, there is very great need to help the tenant farmer to pay his present rent, to say nothing of rates and taxes, which imperceptibly increase every day. I could give no end of reasons for the adoption of cheese factories; in fact, there is *everything in their favour*, and *nothing* (but what will disappear in practice) *against them*. The principal opposition we in Derbyshire meet with is from the local factor, who sees his trade interfered with, and naturally sets his back up; but we shall manage to get over him and I quite expect to see this class of men set up factories for themselves, and purchase milk instead of cheese of the farmer. If not, we shall simply do without them, and we shall then have no more instances of a Derby cheese factor leaving £50,000 by his will to open the Sydenham Crystal Palace on a Sunday. Call me an enthusiast on this factory business, or what you like, I have said what I think, and those who differ from me now, may when they have seen as much as I have, go farther than I do. I will say no more, but will answer any questions that may be put to me as far as I am able.

Mr. GENGE ANDREWS (Sherborne) as a new member of the Club, and a person somewhat concerned in dairy matters, asked permission to say a few words on the subject which had been so ably introduced. In the first place he must observe that he did not quite agree with Mr. Coleman that taxes were imperceptibly increasing; his notion was that they were very perceptibly increasing (laughter). The question before them must depend very much on the locality in which it was proposed to introduce a cheese factory. Such a factory might be very desirable in a district where the farms were small and the distance the milk would have to be conveyed was not too great; but he did not think whey when once skimmed would bear the cost of carriage for the feeding of pigs. The question of pig grazing was involved in that of cheese factories. On his own farm he kept about 200 cows. They were let to two dairymen, one managing 120 cows and the other 80; he had no doubt that they bought five or six hundred sacks of barley a year on which to graze the pigs with the whey. In a district of that kind, where the dairies varied in extent from 30 to 70 cows, the factory system could not, he thought, be easily carried out. He had conversed with one or two dairymen in his own neighbourhood who milked their own

cows, and he believed they felt that they could not afford to sell their milk at 6½d. per gallon. Mr. Coleman did not touch upon the cost of those elaborate buildings which seemed necessary in order to carry out the factory system. He (Mr. Andrews) could not understand how it was that, with such a great abundance of money, and after such flourishing calculations as they had heard that evening, the public were not rushing into the market to take shares in cheese factories (laughter). He was afraid that practical difficulties must arise with regard to management. They all knew that there was no management so close or so keen as that of a person who had a personal interest in the result; and they had heard from the gentleman who had opened the subject that the factory with which he was connected had to go to America for its first manager. That kind of difficulty had been experienced in the case of all joint-stock affairs. You might get a man as manager who was very clever, but not quite honest, or you might get one who was very honest but stupid and incapable of managing properly; and that practical difficulty required to be carefully considered by farmers before they invested their money in cheese factories (Hear, hear). He could very well understand that in small-farm districts cheese factories might be practicable and desirable, the amount of cheese-making being so small that it could not be conducted with advantage; but in North Wilts, and he thought, generally speaking, in Somersetshire, the dairies were sufficiently large to make cheese of the best quality with the simple management of the farmer's wife and servant, and the formation of factories in such a district would have the effect of breaking up all those dairy establishments. He thought that in the principal dairy districts of England cheese factories would not make way very readily. Another point worthy of consideration was that they all knew there was a very strong popular feeling now, that instead of farms being increased in size, they should be made smaller (cries of "No, no," and "quite the reverse"). They all knew what was now the popular power in England with regard to law-making. The power is in the hands of the mechanic. In coming up from the country the other day he happened to be in a compartment of a railway carriage where two individuals were discussing various subjects, and among them farming. One of them remarked that farms were much too large, and farmers too big men, some of them driving into his town in a gig (laughter). He added, that all that would soon be altered; that there must be a subdivision of farms, and they must have quarter-of-an-acre farms (laughter). "Ah," said the other, "and dairy farmers must have one cow between two of 'em, and milk a donkey and a few ducks." Those two persons looked like mechanics. If they were to have very small farms and such a subdivision of land as was advocated in that instance, factories would become an absolute necessity. No one certainly could make much cheese on a quarter-of-an-acre of land (laughter).

Mr. CALDECOTT (Holbrook Grange, Warwickshire) said he wished to ask Mr. Coleman a question. He said that when milk was sent into a factory, within six weeks or two months it was made into cheese, and the person who sent it got his money. Was Mr. Coleman sure that that statement was correct? Though not a cheese-maker himself, he lived in a county where a good deal of cheese was made, and he should be sorry to buy a cheese which would be paid for within six weeks or two months after the milk went into the factory (laughter). In his district there were a great number of small farms, the occupiers of which had been in the habit of making cheese, and many of them had during the last two years turned from cheese-making to sending their milk up to the London market, whence they obtained their money within six weeks if they dealt with honest tradesmen, which was not always the case. They had found that quick return preferable to encountering the difficulties of getting good servants and of dry seasons.

Mr. RIGBY (Winsford, Cheshire) said, like the preceding speaker, he wished to ask a question. It seemed to him that one objection to the factory system was the difficulty of getting all the milk to the factory in good condition. When a number of persons, united in supplying a manufacturer with milk, some of them would not be so clean in their habits as others, and they all knew that milk soon became tainted if the vessels in which it was placed were not kept very clean, and if sour milk was brought to the factory and mixed with good it would damage the whole mass. He wished to ask Mr. Coleman what the manager of a factory would do in

such cases. He was disposed to view the establishment of cheese factories in a favourable light as regarded some districts of the country, but he agreed with Mr. Andrews, that they were not capable of general application. One objection which occurred to him was, that when large quantities of milk were brought together there must be great difficulty in managing it in all seasons, in consequence of the variable character of the weather. The lecturer remarked, indeed, that in factories they could make good cheese at all seasons; but he (Mr. Rigby) thought it was impossible to make good cheese in the hot days of July, especially when there was thunder in the air, and milk collected in large quantities in the factory.

Mr. ALLENDER (Bayswater) said he was connected with a company for which from seven to eight hundred gallons of milk were brought to London daily throughout the year, travelling a distance not of five miles, as was the case in regard to Mr. Coleman's factory, but of 50 or 60 miles, and it was found in perfectly good condition. To secure that was only a matter of detail which might easily be carried out.

Dr. VOELCKER said he wished to supplement what had been said in favour of the factory system of making cheese. The great secret of sending milk by railway, or any considerable distance, during hot weather consisted in taking out the animal heat, as dairy-men called it, to cool it, and if kept down to 60 or 65 degrees it might be sent almost any distance without being spoilt. He did not apprehend, therefore, that anything of that kind would stand in the way of the establishment of cheese factories. One gentleman had alluded to elaborate and expensive buildings which he considered necessary; but, having seen the factory at Longford in Derbyshire, he could assure them that it was very inexpensive. It was, in fact, constructed on the most economical principles. Indeed it was far too economical to please him. He should like to see what he thought would be a very great improvement in the Derbyshire cheese factory and all other factories that might be established: he meant the introduction of hot-water apparatus in the ripening-room. He did not see how the temperature could be kept uniform without hot-water pipes, and inasmuch as hot-water and steam were required for the ordinary operations of the dairy, with very little additional expense pipes might be introduced in the ripening-room. One of the speakers had expressed doubts whether under the factory system money could be returned to the farmer for his milk within two months. His reply was that that was being done at present by some dairy farmers in Somersetshire; and one of the recommendations of the factory system was that, whereas under the ordinary plan in vogue in Derbyshire, and in parts of Wiltshire, Gloucestershire, and Leicestershire, cheese was not fit for market until after the lapse of five or six months, by adopting the Cheddar plan and carrying it out in all its details, farmers could obtain a very good price for cheese which was not more than six weeks old. It was, in fact, one of the beauties of the system that within a very short time they got by means of it a cheese which though very young had all the qualities of ripe and moderately old cheese (Hear, hear). They had heard a great deal about the American system of making cheese. He thought they ought to take a little credit to themselves, or rather the Cheddar and Somerset men ought to have credit, for having taught the Americans how to make good cheese (Hear, hear). The Americans had the great merit of having established a factory system, and of having adopted and carried out all that had been taught in England, both by practical cheese makers and through the scientific investigations which had been made with regard to the manufacture of cheese. They had had a keen intellect to perceive many causes which operated to spoil a cheese when left to individual judgment in the dairy mode of producing cheese. They had adopted scientific principles which, unless the managers were very careless, could not fail to secure the production of good cheese in factories. If farmers wished to set up a factory he would caution them not to adopt any plan, however highly approved it might be in Wiltshire, Gloucestershire, or Cheshire, but the Cheddar system, because the particulars on which success depended had in that case been so carefully ascertained that an ordinarily careful and active manager, having a sufficient knowledge of the world and of men, must produce good cheese under all circumstances, no matter from what kinds of pasture the milk came, in what weather the cheese was made, or in what part of England the factory was

situated. Those were three very great advantages; and if a factory-manager could produce good cheese at all times of the year, in every locality, and from every description of land, he could easily compete with individual dairy-farmers who were far more dependent upon local circumstances over which they had no control. He was almost afraid to detain them on matters of detail; but he would like to point out a few particulars showing how much depended on the exercise of great care in the manufacture of cheese. Almost every step in the management of cheese had to be carefully considered beforehand. It might seem a very simple matter to add rennet to milk, but it required a great deal of experience to know what quantity of rennet should be added and of what quality it should be. They might spoil a cheese at once by using rennet of bad quality. A good manager would at once know how to proceed in procuring his stock of rennet. The importance of that was shown by the fact that if a single bad vell were used in making rennet the whole cheese would be spoilt, and a man who was paid a handsome salary as manager could not plead any excuse for such a result. A bad vell was like the fly in the apothecary's ointment, and it was the business of the manager to guard against it. Then, in adding rennet to milk it was necessary to be very careful as regarded temperature. If the temperature were too high the cheese was apt to get hard; if it were too low the cheese was apt to get soft. Under the Cheddar system rennet ought to be added at a temperature of about 80 degrees, and a manager had to see that that precise temperature was secured. They could never get a number of dairy-maids to attend to such particulars, for they could not see the importance of doing so; but when a large amount of money was at stake, a manager who was responsible for the result might fairly be expected to attend to them. Then in breaking-up the curd they had to be very careful not to hasten the operation too rapidly. Then, again, if the temperature of the vat in which the curd, partly broken up, was placed, were raised too suddenly the curd became unequally scalded; whereas if they raised the temperature gradually to about 100 degrees, taking care that it did not exceed that, the result would be uniform. That was another great advantage of the Cheddar system. Then, again, in ripening cheese they gained a great advantage by putting a large quantity of cheese in a properly-constructed ripening-room. In many farm-houses the ripening-rooms were badly ventilated, and in such places it was impossible to make good cheese. Perfect ventilation was essential to success. Further, if in a room in which cheese was kept the temperature sunk below 60 degrees the cheese could not become properly ripened; and, on the other hand, if the temperature rose above 75 degrees the cheese became bad; it was then apt to bulge out and did not ripen uniformly. In a small dairy it was impossible to pay proper attention to such particulars, but in a factory there was no difficulty whatever. With hot-water pipes they could maintain a uniform temperature of about 75 degrees—the proper temperature for the ripening-room—for weeks together. These were some of the advantages to be secured in dairies in which large quantities of milk were operated upon; and as large quantities of milk were not always attainable, the sensible plan was for farmers to join together to establish a factory either on the co-operative plan or on any other plan which might be found most advantageous in practice. He could not help adding that he thought it would be well if in the immediate neighbourhood of cheese factories piggeries were provided. He thought the whey ought to be consumed near the factory, pigs being fed with whey mixed with barley meal or something of that kind (cheers).

Lord VERNON said that was the first occasion on which he had been present at a meeting of the Farmers' Club, and he must say that he had never heard a discussion which had interested him more than that to which he had listened that evening. He felt special pleasure in hearing a paper from Mr. Coleman, whose assistance had been so invaluable in Derbyshire in promoting the success of the movement there. That gentleman had very correctly stated the manner in which the movement originated. He said it was suggested in some after-dinner speeches; and it occurred to him (Lord Vernon) that some of their friends might think that if they arrived at such a pitch of wisdom in these after-dinner speeches, they must be wonderfully clever when they were sober (great laughter). Mr. Crompton, Mr. Coke, and some other members of the committee, by the energy and close attention

which they had devoted daily and almost hourly to the work, had contributed much to the placing the movement on a sound and secure footing. The difficulties of arriving at anything like a correct judgment as to how they should proceed were exceedingly great. They had nothing to guide them in this country except the written opinions of Dr. Voelcker, with regard to the composition of milk and the manufacture of cheese. And here he (Lord Vernon) maintained that the improvement in the manufacture of cheese originated with Dr. Voelcker's writings in England, the Americans having been wise enough to profit by them, when the English farmers would not take the trouble of examining what Dr. Voelcker had said (Hear, hear, and cheers). That there was a necessity for this movement was quite evident from the remarks of retail dealers, who could tell them that for one ton of Derbyshire cheese, which they sold in that county, they sold 8 or 9 tons of American. When he was in Cheshire the other day, he was told, in a general sort of way, that the case was the same in Cheshire; and, that there was a much larger sale of American cheese in that county than of Cheshire. He could quite confirm what Mr. Coleman said with regard to the assistance which had been rendered in this matter by Mr. Hayes, the eminent London cheese-factor. Mr. Hayes assisted them in getting an American over at a moment's notice; and he certainly secured for them at the Longford factory a most respectable and excellent servant. A gentleman had made a remark with regard to the cost of buildings. Probably he was not aware that the cost was between 30s. and 40s. per cow. Taking the larger amount, the cost for 500 cows at the Longford factory was £1,000, and he thought he might venture to say that the cost of a private dairy per cow was double that rate, or £4 per cow. Dr. Voelcker had referred to several advantages connected with the manufacture and ripening of cheese on a large scale, which could not be had in a private dairy. One of the greatest advantages, in his opinion, was the manner in which landlord and tenant were brought together to work out that great problem (Hear, hear). He never could have anticipated that any committee, whatever might be its composition, would work so harmoniously, so energetically, and so thoroughly to the point, as they did from first to last. That was not, however, confined to Derbyshire. There were movements of the same kind going on in different parts of the country for the manufacture of other kinds of agricultural produce, and whether they were carried on upon the co-operative system or on some other plan, they could not fail to foster good will in many important matters. Another advantage of the factory system, was the total emancipation, if he might use that expression, of the farmers' family from the slavery and servitude of cheese-making. He trusted that the improvement among the dairy farmers would keep pace with that which was going on among other classes of society, and that the female members of the family would be freed from the horrible state of existence to which they had been hitherto subject (cheers). He believed that if that movement went on, its social effects would be quite as great as its financial ones, and he hoped that the improvement which had within his recollection, during the last 20 years, taken place in the character of the Derbyshire farmer, would be quite as much, if not more marked in the next five years, if the factory movement went on. That it should go on, he felt as sure as that to-morrow would follow to-day (cheers). It was one of those great movements which as having a small beginning, ramified all over the country. Whether or not they beat, as long as they equalled, the Americans in the manufacture of cheese and the sale of it in this country, was not, he thought, very material, for he was satisfied that there was room for them all (cheers).

Mr. H. CHEFFINS (Easton Manor, Dunmow) said he could not help remarking that so completely were the English factories following the example of the American ones that they were making cheeses of the same size and shape, and even wrapping them up in similar cloths. As regarded price, Lord Vernon said that American cheese fetched 7½d. per lb., but Derby was retailed at 10d. per lb.

Mr. G. JACKSON (Tattenhall Hall, Chester) said he could not express his sense, of the admirable and business-like manner in which gentlemen in Derbyshire had put the factory-system to the test (Hear, hear). He admired their public spirit; he admired the excellent feeling which they had displayed throughout. They had met with considerable opposition, especially from the cheese-factors; and great obstacles had been thrown

in their way. Although he was a cheese-factor, and his son was also one, he must say that a large portion of the factors had seemed to fear for their vocation. They had seen the same kind of fear over and over again in this world; and they had found that, after all, nobody seemed to be much injured when any great general improvement had taken place (Hear, hear). He supposed it was not an absolute necessity that all cheese-factors should bring up their sons to their business, and in his opinion opposition to this movement on their part was very short-sighted (Hear, hear). The subject had been so exceedingly well brought before them that evening, that all present were already placed in a good position for forming a fair judgment; but having been the first to bring it before the agricultural world, he would venture to say something about his own experience in this matter. Finding that no one else would take up the thing, and finding it impossible to get good dairy-maids and to make good cheese, he determined to convert his own milk on the factory-principle, and establish a factory chiefly for the use of his own milk. In some respects, perhaps, that separate action was an advantage, because he had entire control, though he had bought milk and might perhaps buy more another year. He could honestly state that the result of his own experience during the last year was most favourable to the factory system. One object which he had in view was to get rid of the disagreeableness of having the dairy servants mixing with his ordinary servants, and that, too, was an object in which he had succeeded. It had been remarked by a preceding speaker that the factory system would be very advantageous to small farmers. In that he concurred, but he was convinced that it would be found a still greater advantage to large farmers (Hear, hear). A large farmer must either make his wife a dairy slave, or he must engage a dairymaid. There was great difficulty in getting a married man to manage a dairy, and the employment of a single one was attended with evils. They were driven, in fact, to employ a single woman, who was probably comparatively inexperienced at the commencement, and was very likely to get married after two or three years (laughter). That was one of the necessary evils: if she got good wages some one was almost sure to marry her before long. The large farmers of Cheshire could not obtain a good dairy-maid for less than about £25 a year. Taking everything into account, he was convinced that where 50 or 60 cows were kept, large farmers would gain more by having cheese factories than even small farmers would gain. He was confident that such was the case (Hear, hear). It had been objected that there must be considerable difficulty in getting milk brought sweet to the factory. It was true that unless the cans were kept very clean, there must be that difficulty; but all his own cans were well scalded and cleaned before they left the place, and he had never experienced any difficulty of that kind, though some of the milk was brought from a distance of two miles (Hear, hear). The summer of 1870 was one of the worst summers that he remembered for keeping milk, and yet he was enabled to keep his milk from Sunday morning till Monday morning, cheese never being made on Sunday during the whole of the hot weather. He had, indeed, an excellent spring of cold water at a temperature of from 50 to 52, and as soon as the milk was brought in the process of cooling commenced; with that assistance he had no difficulty in keeping milk which accumulated from Sunday morning till Monday morning, during the whole of last summer. Lord Vernon had remarked that a very large quantity of American cheese was sold in this country. It was, indeed, very surprising to what a large extent American cheese had now displaced English. At the same time that showed what a vast amount of cheese must be eaten, for nearly all the cheese made in this country was all sold; not indeed, at 10d. per pound, for he should like to know what farmer had sold his cheese at that price. He was quite sure that the Cheshire cheese did not last year reach on the average 70s. per cwt., and he was surprised to hear Mr. Coleman say that 72s. or 73s. was the average in Derbyshire.

Mr. COLEMAN repeated that the average price made by the suppliers of milk to the Longford factory in 1869 (where this cheese was made in the farm-house) was 73s. per cwt. of 120lbs.

Mr. JACKSON said, in connection with the advantage of cheese factories to large farms, he must express his strong opinion that farms would be made larger than they are (Hear, hear). He believed that the whole tendency of agriculture was to make farms larger and better cultivated, and they could

not be better cultivated without being increased in size. While the factory system would benefit the farmer, it would, in his opinion, be equally advantageous to the landlord. Whatever increased the amount of profit the land yielded, must in the end benefit the owner, and he believed that the landlord would reap the greatest advantage (laughter). It would, however, be only a fair and proper advantage. The tenant got the first advantage; but, whatever raised the value of the produce must ultimately increase the value of the land (Hear, hear).

Sir GEORGE JENKINSON, M.P., said he was very loth to take part in that discussion, but feeling considerable interest in that question as a landowner he wished to make a few remarks. It so happened that the farms which he possessed in Wiltshire and Gloucestershire were all dairy-farms, and every shilling of his rent was paid by dairy-farmers, and therefore the Club would easily understand that that subject was one in which he took considerable interest. There was one point which he was surprised had not been mentioned that evening, because it seemed to his mind a very important point. The gentleman who read the paper truly remarked that the process of cheese-making tended to exhaust the land. He quite agreed with him. No man who owned dairy-land could do otherwise than feel that. But it must be remembered that, under the present system, the exhaustion took place, although everything in the shape of whey and pig-feeding was, under the present system, returned to the land. But what would be the case when nothing of what was taken away was returned to the land, when every particle of milk went to a distance of 20 or 25 miles. After the milk was gone the farmer and his wife would have nothing on earth to do, not a pig or a calf to feed with milk, and nothing of the produce to put on the land (laughter). Although that state of things might in the first instance affect only the landowner's pocket, they might depend upon it that it would ultimately affect the occupier's pocket as well. With regard to that item of pigs, what was a man to do if he could not keep a pig because all the whey went off the farm? He knew at least one large farmer in Wiltshire who during the year used to fat 1,000 pigs from the whey of some 70 to 80 cows, buying in at least 2,000 sacks of corn. If such a man sold all his milk to a factory, what was to become of his land? He thought that subject ought to be looked at in a practical way, for it was only through that that any good could arise from the discussion of it (Hear, hear). The factory system had been tried at Swindon, but it was found not to answer. He had heard reasons assigned for that, and one in particular, which he should not give. It was important to consider how far the factory system was applicable to different localities. It might very well be that, in a new country like the United States, where all the relations of life differed in a very great degree from those which existed in this country, where the distances to be traversed were immeasurably greater than here, where everything was on a large scale, and where labour was difficult to secure, the factory system was the best; but it did not follow that it would be the best for England. A great deal had been said about the slavery of farmers' wives under the present dairy system, Lord Vernon having concurred in that view of the question. Now, knowing as he did a great deal about the work on dairy farms, that kind of language seemed to him a little singular. If Lord Vernon were to go to a farmer's house in his (Sir G. Jenkinson's) part of England, in the afternoon he would see the wife as well dressed as any lady could desire to be, although she had been previously occupied in the dairy. On the great cheese-fair day at Chippenham, anyone might see the farmers' wives come there to sell their cheeses as smartly dressed and as jolly as anybody ever was at a fair (great laughter). A cheese factory would take away that little enjoyment from them. If they had no cheese to make they would have none to sell, and therefore no enjoyment on the cheese-fair day (laughter). Living as he did in a dairy-farm country, he must say that the proposed change would make a great revolution in the system of farming. Some people had obtained a character for making a particular kind of cheese, and many farmers felt great pride in the fact that their farm was celebrated for its cheese. He knew two or three farmers, tenants of his own, who made famous cheeses, and the factory system would tend to destroy the *amour propre* of such men. As regarded the question of statistics, they all knew that differences of pasture affected the quality of cheese; how would it be if the milk derived from a number of different pastures were mixed together? If,

for instance, some came off good land, well manured, some off poor ill farmed land, and he asked that in order to obtain information, imagining that a difference of pasture might spoil a cheese. In making these remarks his sole object was to promote the cause of agriculture by eliciting information; but he could not see how it could advance agriculture to do away with the old system of cheese-making, which supplied the great motive-power to so many farmers, and gave an interest to their wives. Under the factory system farmers' wives would not care how the cows were milked, or whether the cows were clean or dirty, or well or ill cared for.

LORD VERNON: Allow me, sir, to ask Sir George Jenkinson one question. Is it not the case in Wiltshire that farmers' wives make cheese twice-a-day, and that the morning make begins at 5 o'clock, and the evening make does not end till 9, 10, or 11? (Hear, hear)

SIR G. JENKINSON: I have no doubt that they do make cheese twice-a-day; but I assert this, that, taking as a limit a farm in Gloucestershire or Wiltshire, with 60 cows, I will show Lord Vernon, if he will come there, as well-dressed happy, and comfortable-looking wives in the afternoon as he could wish to see (laughter).

MR. GENG ANDREWS, who rose amid cries of "spoke," begged to state that cheese was not generally made twice-a-day in North Wiltshire. There it was made only once-a-day, and the process was generally over by 11 o'clock.

MR. S. SIDNEY (Islington) did not pretend to know anything about cheese-making, but having heard the arguments of Sir George Jenkinson against the factory system, he must say that similar arguments were equally applicable to the introduction of steam in manufactures (Hear, hear). The question of cheesemaking depended entirely on profit (Hear, hear). If the farmer found that, by sending his cheese to a factory he could make more money than by keeping it at home, all the sensational and all the sentimental arguments of Sir George Jenkinson would go for nothing (cheers). No doubt it would be a very sorrowful thing if farmers' wives had, like ladies of fashion, nothing to do with cheesemaking, but he had no doubt that they would be able to console themselves under such a dispensation (laughter). With regard to the exhaustion of the land, he thought that agricultural chemistry and all the studies which they had been pursuing for years in reference to the manufacture of manures, would have done very little for them if, when for the sake of profit, they had made a vacuum with one hand they could not fill it with the other (Hear, hear).

MR. H. M. JENKINS (Secretary of the Royal Agricultural Society of England) said, having devoted a great deal of attention to that subject, he wished to make a few remarks. In reference to what Sir George Jenkinson had said on the whey question—a question which seemed to be most difficult for English farmers to understand. The American system of cheese-making had, it must be admitted, considerable advantages over some of the dairy systems in England—not over the best. But in what did these advantages consist? Under the American system, as in England, there must of course be whey. The Americans did not throw their whey into the rivers, but gave it to pigs or calves; and it was simply a question for agreement between factory owners and the farmers who supplied them with milk whether those who supplied the milk should take the whey back to the farm, or whether they should have pigs or calves near the factory to consume the whey there. In either case the whey would not be lost, but would return to the land; and he did not see, therefore, what difference the factory system could make in that respect. Having visited Wiltshire, specially to investigate there the question of cheese making and the adaptability of the factory system to different districts, he must say that he thought he had seen some of the best dairies there and also some of the worst. He had there seen cheese making at the lowest point and in the most primitive fashion, and he had also seen the most refined applications of mechanical science. Therefore he did not think it could be shown that in Wiltshire farmers' wives were as a body either free at exceptionally early periods of the day or employed for an exceedingly large number of hours. But this he must say, that however jolly farmers' wives might be, however much they might like the excitement of the cheese fair, or however proud they might be of their fat cheeses, when he

came to talk to them he found that they would be very glad indeed to get rid of the bother of cheese making (cheers).

MR. J. K. FOWLER (The Prebendal Farm, Aylesbury) said he came from a dairy district where the land was too good for cheese making, and where the difficulties connected with the making of cheese and butter, so well described by Mr. Coleman, had led many farmers to give up making them. In fact, the manufacture of both had almost entirely ceased in his neighbourhood. In the vicinity of Aylesbury there was a large manufactory for making condensed milk; hundred of gallons were sent there every week, and afterwards either sent abroad or used in this country; and in that way they had got rid of the difficulties and troubles mentioned by Mr. Coleman. Formerly his household was entirely upset by the process of butter making, which lasted from eight in the morning till perhaps eight or nine in the evening. In fact, the work seemed never completed; and whatever Sir George Jenkinson might say about the smartly-dressed farmers' wives of his district, he could not help thinking that they would be glad to give up dairy-work. As regarded the making, not merely of cheese but even of butter, he felt certain that the having the work of manufacture concentrated in one place would prove far preferable to the old system, under which it was impossible to make the most of the milk. In a paper which he read in that Club on the influence of the railway system in connection with agriculture, he alluded especially to the fact that in neighbourhoods whence milk was sent to London pigsties were abandoned, and observed that it behoved the owners of the soil to provide some other means of replenishing it. He was censured at the time for saying that, but he still retained his opinion, and perhaps Mr. Jackson would bear him out that bones had been most successfully used in Cheshire.

The **CHAIRMAN**, in summing up, said the discussion appeared to him to have been a very useful one. Nothing which Mr. Coleman had said would justify the supposition that he wished to compel farmers, who were fond of cheese-making, to give it up (Hear, hear). They all knew that there were many farms in this country which were better adapted for producing cheese than for anything else, and in such cases the occupier might still desire to devote his personal attention to cheese; but on the other hand he knew cases in which a farm would produce two or three hundred more a year in that way than any other, and yet the occupier would rather forego that additional profit than have all the trouble of cheese making, and it seemed to him very desirable that such persons should have an opportunity of sending their milk to a factory (Hear, hear). He really thought the introduction of cheese factories would be a great advantage to this country.

MR. COLEMAN then replied: He said he was very glad to hear the remarks of Mr. Fowler with regard to what had occurred on the rich dairy land of the Aylesbury district.

MR. BRYAN WARD (Drayton), begged to tell Mr. Coleman that on the best lands of Leicestershire they made the best cheese. It was, indeed, so good that it was eaten as fast as it could be made.

MR. COLEMAN continued: Sir George Jenkinson seemed to fear that cheese factories would bring about a revolution in England. He could only say that in the Midland Counties the revolution would not come too soon. Farmers there were saying every day, "Pray tell us how the cheese factory system works." Sir George Jenkinson spoke of a farmer in his district who kept 1,000 pigs and 70 cows. The utmost amount of whey that the pigs could obtain in that case was a pint a day, and therefore it was of little consequence whether the whey was used or not. There would be quite as much manure for the land under the factory system as under the old system; and the labour of carting could not be very great. He hoped that during the next season Sir George Jenkinson would do him and his friends in Derbyshire the honour of paying them a visit in order that they might show him what they were doing, and afford explanations with regard to the factory system on the spot. Mr. Jackson had put a question to him with regard to hot weather. As he stated in his paper, he had the advantage of cold spring water, and he could not get on without it. Mr. Cheffins had questioned him about the price of American cheese. His paper had reference not to American but to English factories, and he begged to say that last October he sold at Leicester at 84s. per cwt. two tons of cheese, which was at the time only eight weeks old. It was made in August, and sold on the 11th of October. Although

they had employed an agent who came from America, they were not going to adhere precisely to the American system. The system which they followed was in fact Dr. Voelcker's, and they would do their best to improve it. One of the largest buyers of cheese in the West of England told him a few weeks ago that he was tired to death of going into Somersetshire to buy cheese, because he never got two dairies alike (Hear, hear). He believed that the larger the dairy was the more beneficial the factory system would prove to farmers. He wanted to see a class of men occupying land who would take a pride in its management, and in keeping it in good condition, and not think merely of the quality or the shape of his cheese (Hear, hear). As to the mixing of different qualities of milk—a point upon which some gentleman wished for information—he begged to say that that was the very thing that was wanted to make cheese what it ought to be. One man's milk had too much cream in it, another's too little, and the mixing of the two together made a much more saleable cheese. In reply to Mr. Caldecott's question respecting the time required to send cheese to market, he would only say that on the 21st of June last year he purchased cheese made in America on the 7th of May, and took it home for his own consumption. That was only six weeks from the time of its being made.

On the motion of Mr. T. HORLEY, seconded by Mr. J. TRASK, a vote of thanks was given to Mr. Coleman for his introduction; and the proceedings terminated with a vote of thanks to the chairman.

NEW MEMBERS.

Elected January 2.

R. Daubairn, March.
G. B. Gregory, M.P., Boarsell House, Hurst Green.
T. Hazard, Blackheath.
B. Hodges, Minster, Ramsgate.
M. G. Nockolds, 46, Southampton Buildings.

Elected February 6.

The Rev. J. J. Bumpstead, Goschen House, Guildford.
W. Bushell, Rowling, Wingham.
C. Matthews, Glenely House, Wolverhampton.
Caledon G. Du Pre, M.P., Wilton Park, Beaconsfield.
A. Rogers, Bromham, Bedford.
T. L. Senior, Boughton House, Aylesbury.
M. Sutton, Junr., Reading.
S. Wentworth, Burghclear, Newbury.

THE CHEESE FACTORY SYSTEM.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I have felt much interest in the discussion of the Cheese Factory System by the Farmers' Club. Great good must necessarily arise from such vital topics being freely ventilated, and the thanks of the agricultural world are due to the reader of the paper for the able and lucid manner in which he illustrated the various heads. Much interest must also be felt by farmers' wives and dairy-maids as to the results, and not least by the rural swains who may have a covetous eye towards those blooming damsels so gallantly and humorously described by Sir George! That a great deal of bad cheese is made in this country cannot be denied, and some alteration and remedy is absolutely necessary in order to maintain the position of our home made. Since the 10s. 6d. duty was taken off foreign, the price of English has increased 60 to 80 per cent.; our home produce is all consumed; and, in addition, we pay the foreigner annually 8,000,000 sterling for cheese and 7,000,000 for butter, and still there is an increasing consumption; so that any system that will give us more quantity is worthy the consideration of the tillers of the soil. Germany and Denmark excel us in butter, and if more care is not taken, and something speedily done in regard to cheese-making, Holland will take the lead of us in this also. Foreigners are alive to their interests, and Englishmen cannot afford to lie on their oars, but must be up and doing. I regret, however, that Mr. Coleman should have wound up with such a fallacious statement. No such amount as £50,000 was left by a cheesefactor to the Crystal Palace Company, and

it is a well-known fact that the actual amount willed was not got from the cheese trade, but by some lucky *land* and *stock* speculations, in which the gentleman referred to dealt heavily and was most successful (except in his pet Crystal Palace hobby). Such remarks tend to throw dust in the farmers' eyes and lead their minds from the main points; besides, Mr. Coleman should have remembered that the firm has been the greater portion of a century in existence, and it is generally allowed that careful, hard-working men succeed, *or ought to do*, after half a century's trading. The farmer borrowing from cheesefactor in anticipation is a deplorable system, and one that the factors would willingly get rid of, for such farmers glut the fairs with the cold, raw, secondary cheese; and if Mr. Coleman will walk through any fair late in the day he will find the "unsold" dairies the very lots he describes as being mortgaged to the factors, the latter preferring to risk the money already advanced rather than lose an additional sum by taking to a lot of bad cheese.

Your obedient servant,

JOHN HOWARD, Junr.

PLEURO-PNEUMONIA. — At the Council Chamber Whitehall, the 16th day of February, 1871.—By the Lords of Her Majesty's Most Honourable Council. Present—Lord Privy Seal and Mr. Forster.—The Lords and others of Her Majesty's Most Honourable Privy Council, by virtue and in exercise of the powers in them vested under the Contagious Diseases (Animals) Act, 1869 (in this order referred to as the Act of 1869), have issued an order to take effect from the 16th day of February, 1871, according to which, where a local authority is authorized by the Privy Council to put in operation this provision of this Order, such local authority may cause all cattle affected with pleuro-pneumonia within their district to be slaughtered. This order is subject to certain provisions, among which are the following: The local authority shall, by way of compensation for every such animal, pay to the owner thereof such sum, not exceeding £20, and not exceeding one-half of the value of the animal immediately before it was affected with pleuro-pneumonia, as to the local authority seems fit. Where any animal has been slaughtered in pursuance of this Order, the owner thereof shall not be entitled to recover in respect of the insurance thereof any sum which, together with the payment which he receives for the same under this Order, would exceed the sum which he would have been entitled to receive in respect of the insurance. Where a local authority is authorized by the Privy Council to put in operation this provision of this Order, such local authority may from time to time, with the view of preventing the spreading of pleuro-pneumonia, make regulations for the following purposes, or any of them:—For prohibiting or regulating the movement out of any field, stable, cowshed, or other premises, of any cattle affected with pleuro-pneumonia, or of the carcasses of any cattle which have died or have been slaughtered in consequence of being affected with pleuro-pneumonia. For prohibiting or regulating the removal of hay, straw, litter, or other thing commonly used for food of animals, or otherwise for or about animals, that has been in the same field, stable, cowshed, or other premises with cattle affected with pleuro-pneumonia. Provided that such local authority shall from time to time define the area within their district within which any such regulation shall have effect, and they may from time to time revoke or alter any such regulation. Where a local authority is authorised by the Privy Council to put in operation this provision of this Order, such local authority may, from time to time, with the view of preventing the spreading of pleuro-pneumonia, regulate or prohibit the holding of any specified market, fair, auction, sale, or exhibition of cattle within their district, and may from time to time alter or revoke any such regulation or prohibition. Provided that the Privy Council, if satisfied on inquiry, with respect to any regulation or prohibition made by a local authority under this Order, that the same is of too restrictive a character or otherwise objectionable, may direct the revocation thereof, and thereupon, as from the time specified in that behalf by the Privy Council, the same shall cease to operate. Expenses incurred by a local authority in pursuance of this Order shall be defrayed out of the local rate.

THE POTATO PLANT.

BY CUTHBERT W. JOHNSON, F.R.S.

At a season when potato planting is about to commence, it will be useful if we examine some lately-reported experiments with several manures applied to this crop. Other questions also, such as the size of the sets, and the distance between the rows, are well worthy of the attention of the cultivator. It will be well if we previously examine the chemical composition of the potato plant, before we proceed with our inquiry as to the result of dressing the soil with certain saline and other manures. The potato plant was, some years since, very carefully analysed by the late Professor Johnston and Mr. Fromberg, and from the result of their labours it appears that the composition of the plant varies very considerably at different periods of its growth. Thus they found that the amount of starch and fibre in the young potato—viz.: in 1, the ash-leaved kidney; 2, Buffs from Midlothian; 3, the same Buffs, a fortnight later; 4, an early potato from Renfrewshire—was as given in the following tabular statement (*Trans. High. Soc.* 1845, p. 648):

	1.	2.	3.	4.
Starch	9.52	5.53	7.51	9.14
Fibre.....	4.23	4.53	4.69	4.87

In the case of some cuttings of the Buffs planted in a field in 1846, the diminution of the proportion of starch was remarkable :

	May 30.	June 13.
Starch	5.50	0.05
Fibre	2.35	1.51

The quantity of starch and fibre in four varieties of the ripe potato—viz.: 1, Red from Lanarkshire; 2, Cups from Argyleshire; 3, Buffs from Midlothian; and 4, White from do.—was found to be (*ibid.*, p. 650):

	1.	2.	3.	4.
Starch	14.08	15.14	14.89	14.32
Fibre.....	4.58	4.53	4.45	4.96

By keeping, the proportion of starch diminishes (probably by conversion into sugar and gum). M. Payen found in the same variety per cent., in

October	17.2	January	15.5	March	15.0
November ...	16.8	February ...	15.2	April	14.5
December ...	15.6				

The general average composition of the varieties of the ripe potato, examined by Mr. Fromberg, was, per cent. (*ibid.*, p. 670):

	Natural state.	Dry state.
Water	75.52	—
Starch	15.72	64.20
Dextrin	0.55	2.25
Saccharine matter (impure)	3.30	13.47
Albumen	1.41	5.77
Casein		
Gluten		
Fatty matter	0.24	1.00
Fibre with coagulated albumen	3.26	13.31

The proportion of water in the potato varies in different parts of the bulb and in different specimens. The following analysis of four specimens show this—

Rose end	80.07	76.56	71.97	82.60
Middle	73.77	75.30	79.91	85.13
Heel end	65.33	71.78	74.64	74.30

He found also the same difference in the amount per cent. of starch (*ibid.*, 596).

	Belfast rounds.	Reds.	Kidneys.
Rose end	19.15	16.42	14.84
Centre	14.40	13.73	13.87
Heel end	18.70	20.93	17.48

The average produce of starch in 1846 was—
In the natural state 15.72
Dry (free from water)..... 64.20

It is evident, however, that the amount varies in different soils.

	Midlothian.	Forfarshire.
Buffs	14.89	20.71
	Argyleshire.	Midlothian.
Cups	15.14	23.82

The average composition per cent. of the ash or inorganic portion of the potato tuber is: 1. Calculated with; 2. without carbonic acid (*ibid.*, 1847, p. 683)—

	1.	2.
Potash	43.10	52.40
Soda	3.20	3.88
Lime.....	1.80	2.20
Magnesia	3.17	3.85
Oxide of iron	0.44	0.53
Sulphuric acid	15.24	18.50
Phosphoric acid ...	8.61	10.45
Chlorine	4.81	5.84
Silica	1.94	2.35
Carbonic acid	18.29	—

The composition of two varieties of the potato top, in their natural state, obtained from the same field, is, per cent., as follows (*ibid.*, 686):

	White Buffs.		Red Buffs.	
	Stems.	Leaves.	Stems.	Leaves.
Water	91.51	84.99	88.65	84.29
Inorganic matter ...	1.67	2.39	1.52	2.48
Organic matter	6.82	12.62	9.83	13.23

The composition of the ash of the leaves of the red Buff potato, at successive stages, was found to be (*ibid.*, 688)—

	June 13.	June 27.	July 11.
Potash	8.43	24.12	11.80
Soda	9.50	5.49	—
Chloride of Potassium	15.69	23.10	16.29
————— Sodium	12.04	—	—
Lime.....	28.88	18.59	38.27
Magnesia	2.98	2.32	7.08
Oxide of iron	2.64	5.10	4.20
Sulphuric acid	7.15	6.40	9.23
Phosphoric acid	6.25	10.58	10.84
Silica	6.45	4.30	1.39

From an examination of the mineral matters or ash of the potato, we should naturally feel inclined to conclude that a dressing of a mixture of the salts of potash with superphosphate of lime would be a profitable application to the crop. Now this conclusion has not only been confirmed by some valuable experiments instituted by Professor Voelcker, to which I shall presently advert, but by the experience of a considerable Ross-shire grower of this root. For at a meeting, a few months since, of the Wester-Ross Farmers' Club, Mr. Sim, when addressing his brother cultivators observed (*Farmers' Mag.*, vol. 64, p. 66) that of all crops the most marked results of top-dressing were obtained from potatoes; he found by actual experiment in 1868, that it increased the crop by one-fifth; and in a recent conversation with a brother farmer (who has been for years a grower of potatoes), as to the amount of manure he applied, he informed me that he never used less than six cwt. per acre, and he believed that it would pay to give more. He found a mixture of Peruvian guano one ton, potash one ton, and best dis-

solved bones two tons, to suit him best. That he applied 4½ cwt. of this mixture when planting, and 1½ cwt. when earthing up.

And again it is noteworthy that these substances are all found in farm-yard dung, which in almost all trials with potato dressings has commonly produced the best results. The following is the analysis of two specimens of farm-yard manure, by the late Mr. Nesbit (*Jour. Roy. Ag. Soc.* vol. 7, p. 214). No. 1 being from Kent, and No. 2 from Surrey :

	1.	2.
Per centage of ash.....	9.2	9.6
Silica.....	79.79	71.32
Potash.....	3.32	5.14
Soda.....	0.92	1.68
Lime.....	6.90	12.32
Magnesia.....	0.56	0.82
Common salt.....	1.43	1.22
Phosphate of iron.....	2.04	2.03
Phosphate of alumina.....	1.53	3.54
Sulphuric acid.....	1.89	1.57
Phosphoric acid.....	1.58	1.27

The superior results obtained by the use of farm-yard dung for potatoes are alluded to by Professor Voelcker in his valuable report on various field experiments on this root (*ibid.*, vol. 6, p. 395, N. S.). As he well remarks, "on light land and in a dry season, rotten dung produces a beneficial effect upon vegetation which cannot be expected to follow from the use of artificial manures. Apart from the direct supply of fertilizing matters a fair dressing of dung incorporates with the land a large amount of decomposed organic matter, which possesses in an eminent degree the power of absorbing, and retaining moisture in the land. For this reason dung is particularly useful on land which, like many poor lands, suffers much in a dry season."

Then again, the best time for the application of saline manures to potatoes is of very considerable importance. On this head the Professor remarks (*ibid.*, p. 397). "I am more and more constrained to look upon all very soluble manures as rather dangerous agents, for I have noticed over and over again the injury which these kinds of fertilizes produce in dry seasons, especially if they are applied rather late in spring. Unless common salt or potash salts can be applied to the land quite early in the spring or at all events not later than the beginning of March, I believe it would be better in nine seasons out of ten not to make any use of these very soluble matters, which require to be thoroughly washed into the soil, if they are to benefit the crops for which they are used. It was when commenting upon the following experiments that the Professor was led to make these remarks, viz :

"Potato experiments with dung and various artificial manures made in 1867 by Mr. Hetherington, at Carleton, Carlisle. The following manuring scheme was adopted in these experiments :

Plots	Name of Manure.	Quantities used per Plot of 1-20 of an Acre.	Produce per Plot.
1	No manure .....	...	193½ lbs.
2	Mineral superphosphate	22 lbs.	266½ "
3	Good Dung	1 ton.	636 "
4	{ Mineral superphosphate and Crude potash-salts	22 lbs. 22 "	{ 426 "
5	No manure .....	...	246 "
6	Crude potash-salts	22 "	426 "
7	{ Common salt and mineral superphosphate	22 " 22 "	{ 303 "
8	Common salt	22 "	221 "
9	Good dung	1 ton.	770 "
10	No manure .....	...	225 "

"The land upon which the experiments were tried was a very sandy light soil, in a poor agricultural condition, and of a uniform character throughout.

"The potatoes were planted on the 23rd of April, and the manures were mixed with twice their weight of finely-powdered soil, and sown by hand during showery weather.

"The potatoes on the plots manured with dung made a rapid start and grew luxuriantly, whilst the unmanured plots, and all those dressed with artificial manures, came up sluggishly, and throughout the abnormally dry season of 1867 looked stunted, and evidently not doing well. The potatoes on plot 7, manured at the rate of 4 cwt. of common salt, more especially had an unhealthy, shrivelled appearance, which I have noticed several times before as the result of a dressing of salt on potatoes in a dry season. The roots were taken up in October in dry weather and carefully weighed.

"The variations in the weight of the produce from both the unmanured and, especially from the dunged plots, are rather larger than it is desirable they should be, but not greater than they are usually found to be in unpropitious seasons in similar experiments.

"The following Table gives the weight per acre of the crop of potatoes :

Plots.	Names of Manures used.	Total.			
		Tons.	cwts.	qrs.	lbs.
1	No manure	1	14	2	6
2	Superphosphate	2	7	2	10
3	Rotten dung... ..	5	13	2	8
4	{ Mineral superphosphate } { and crude potash-salt... }	3	16	0	8
5	No manure	2	3	3	20
6	Crude potash-salt... ..	2	4	2	6
7	Common salt	1	19	2	6
8	{ Superphosphate and } { common salt... .. }	3	10	0	20
9	Rotten dung... ..	6	17	2	0
10	No manure	2	0	1	0

The next series of experiments were made in 1867 in the garden at Benthall Hall, near Broseley, by Mr. George Maw. They are valuable, as not only showing the effect of applying different manures, but of using different sized sets, although, as Professor Voelcker truly remarks (*ibid.*, p. 402), "the whole tenor of these experiments appears clearly to indicate that they were made in too rich a soil, and the details of these experiments, which are not altogether void of interest, are reported as a striking example, showing how much careful labour is thrown away in a great measure when manuring experiments are carried out on land in too high a condition of agricultural productiveness."

The Professor, in introducing Mr. Maw's report, adds : "The sets were all planted between April 6th and 10th, and the number of sets per acre was always 21,780 ;" and he further adds :

"An elaborate series of experiments with crude potash-salts, mineral superphosphate, farmyard-manure, common salt, and mixtures of superphosphate and potash-salts, and superphosphate and common salt, was carried out in 1867, by my friend and former pupil, Mr. G. Maw.

"Potato sets of the King of Fluke potato, similar weight (each set separately weighed), were used with each of the experiments which were tried in the garden of Benthall Hall, and uniform conditions insured as far as possible.

"Mr. Maw carefully noted down the detailed results of his laborious experiments, which he incorporated in the following table of the trials with King of Flukes, planted

1 foot in the row, 2 feet apart, (the outer row not in the Experiment), rows 70 feet (Sets) in length :

Weight of Set.	Weight of Sets per acre.				Gross Produce per acre.				Weight of Manure.
Oz.	Tons.	cwt.	qrs.	lbs.	Tons.	cwt.	qrs.	lbs.	
8	4	17	0	26	14	3	0	21	No manure.
6	3	12	3	19½	13	12	3	12	
4	2	8	2	13	12	6	1	26	
2	1	4	1	6	8	11	2	11	
8	4	17	0	26	12	13	1	18	4 cwt. min. superphosphate.
6	3	12	3	19½	11	8	1	27½	
4	2	8	2	13	11	15	0	6	
2	1	4	1	6	9	1	0	9	
8	4	17	0	26	9	14	1	24	20 tons rotten dung.
6	3	12	3	19½	11	1	3	6½	
4	2	8	2	13	14	10	0	26	
2	1	4	1	6	9	15	2	20	
8	4	17	0	26	16	2	0	9	4 cwt. min. superphosph.
6	3	12	3	19½	16	10	2	10	
4	2	8	2	13	16	0	0	14	
2	1	4	1	6	11	11	2	18	
8	4	17	0	26	13	5	2	7	4 cwt. crude potash-salts.
6	3	12	3	19½	13	7	1	15½	
4	2	8	2	13	14	1	0	1	
2	1	4	1	6	10	4	3	18	
8	4	17	0	26	10	10	1	1½	4 cwt. per acre of common salts.
6	3	12	3	19½	14	17	3	2½	
4	2	8	2	13	14	5	3	12½	
2	1	4	1	6	10	15	1	13	
8	4	17	0	26	11	13	1	12	4 cwt. min. superphosph.
6	3	12	3	19½	13	14	2	20	
4	2	8	2	13	14	8	3	3	
2	1	4	1	6	10	5	2	16	
8	4	17	0	26	11	8	1	27½	4 cwt. common salt.
6	3	12	3	19½	17	19	0	17	
4	2	8	2	13	15	14	0	6½	
2	1	4	1	6	11	8	2	26½	
8	4	17	0	26	15	9	3	19½	No manure.
6	3	12	3	19½	13	0	2	22½	
4	2	8	2	13	15	9	0	22	
2	1	4	1	6	9	15	3	19	
8	4	17	0	26	9	5	3	23	4 cwt. min. superphosphate.
6	3	12	3	19½	19	8	3	20	
4	2	8	2	13	12	12	2	6½	
2	1	4	1	6	11	9	3	23	
8	4	17	0	26	22	0	2	9	20 tons of rotten dung.
6	3	12	3	19½	12	11	2	9	
4	2	8	2	13	15	10	0	19	
2	1	4	1	6	13	2	0	4½	
8	4	17	0	26	13	4	1	11	4 cwt. crude potash-salts.
6	3	12	3	19½	12	12	3	6	
4	2	8	2	13	13	17	0	12½	
2	1	4	1	6	11	7	0	4	
8	4	17	0	26	13	1	1	6½	4 cwt. common salt.
6	3	12	3	19½	13	15	3	16	
4	2	8	2	13	14	18	2	0	
2	1	4	1	6	12	9	1	17	
8	4	17	0	26	11	15	0	20	4 cwt. min. superphosph.
6	3	12	3	19½	8	13	3	5½	
4	2	8	2	13	12	17	2	18½	
2	1	4	1	6	9	19	3	7	

I will only give one more series of experiments reported in the valuable communication of Professor Voelcker, who says (*ibid.*, p. 412): "In conclusion, I have the pleasure of reporting on some extremely interesting and successful experiments on potatoes, which my friends Messrs. Coleman and Hull undertook for me in 1869. They were tried on light land, which, however, was in a good agricultural condition.

Each plot was planted with Victoria potatoes, on the 19th of April, 1869, and the crop harvested on the 15th of October, and weighed on the same day, when the following results were obtained :

"The following Table shows the kind and quantity of manure used in potato experiments, made in 1869, at

Easrick Park, Home-farm, near York; the produce calculated to the acre :

Plots	Description of Manure.	Quantity of Manure per Acre.	Produce per Acre.		
			Tons.	cwts.	lbs.
1	{ Mineral superphosphate	4	}	cwts.	12 5 40
	{ Crude potash-salts	2			
	{ Sulphate of ammonia ...	2			
2	Rotten dung	20 tons.			11 5 40
3	{ Mineral superphosphate	4	}	cwts.	8 9 12
	{ Potash salts	4			
4	No manure	—			6 15 80
5	{ Mineral superphosphate	4	}	"	10 15 0
	{ Potash-salts	2			
	{ Nitrate of soda	2			
6	Peruvian guano	4 "			9 9 72
7	{ Mineral superphosphate	4	}	"	7 6 88
	{ Common salt	4			
8	Rotten dung	20 tons.			11 2 56
9	No manure	—			6 7 56

The two unmanured plots yielded on an average 6 tons 11 cwts. and 68 lbs. per acre; and the two plots to which rotten dung was applied on an average 11 tons 8 cwts. and 104 lbs. On the 14th of July, adds the Professor, the field presented the following appearance :

"1. Strong luxuriant plants; colour of tops, dark green; to all appearance the best of the experimental plots.

"2. Good healthy plants; colour of tops good; nearly equal to Plot 1.

"3. Weak tops, of a pale sickly colour.

"4. Nearly equal to Plot 3, but tops a better colour.

"5. Strong healthy plants; dark green tops; nearly equal to plot 1.

6. Strong healthy-looking plants; colour of tops darker green than on any of the other plots.

"7. Very small weak tops, and of a pale yellow colour; apparently the poorest plot of all.

"8. Good strong healthy plants, and very regular in the rows.

"9. Plants very regular, and appearance about the same as Plot 4.

"A casual observer could readily distinguish the plots upon which nitrogenous manures had been used from the others, by the dark green colour which the potato-tops on these plots presented. On the other hand, he would at once recognise the parts of the field to which potash-salts, and especially common salt, had been applied, by the pale green colour of the tops.

"The plots manured with potash-salts did not look very promising at first, but they subsequently recovered and yielded a good increase, although the tops throughout the whole period of growth were paler in colour than on the unmanured portions of the field. On the plot which had received 4 cwts. of salt, in addition to 4 cwts. of superphosphate, the potatoes made no way, looked pale and sickly, and yielded only an inconsiderable increase over the unmanured plots. A glance at the last Table shows :

1. That the greatest increase was obtained by applying to the potato crop per acre a manure composed of 4 cwts. of mineral superphosphate, 2 cwts. of potash salts and 2 cwts. of sulphate of ammonia. This application produced the large crop of 12 tons 5 cwts. and 40 lbs. per acre, and gave an increase of over 5½ tons of potatoes over the yield of the unmanured plots.

"2. That next to the compound artificial manure used on plot 1 dung had the most beneficial effect upon the potato crop.

"3. That mineral superphosphate and potash-salts, without sulphate of ammonia, yielded much less increase than the same mixture with sulphate of ammonia.

" 4. That the addition of nitrate of soda to superphosphate and potash-salts has a less beneficial effect than the addition of sulphate of ammonia to the same fertilising agents.

" 5. That a compound artificial manure, suited to the requirements of the crop intended to be raised, and to the character of the soil to which it is to be applied, frequently has a better effect than Peruvian guano.

" 6. That common salt, applied to potatoes in considerable quantities, rather injures than benefits the crop.

" A general review of all the recorded experiments on the potato crop, if I am not mistaken, warrants the conclusion that on light land excellent crops of potatoes may be grown at a comparatively small expense by means of artificial manures, consisting of superphosphate, potash-salts, and sulphate of ammonia, and that on heavy land, in a good agricultural condition, sulphate of ammonia

may be omitted from a potato manure, either altogether or in part, and that on such land a small quantity of nitrate of soda, added to superphosphate, generally has a better effect than sulphate of ammonia."

The important questions which are briefly alluded to in this paper are all well worthy of the serious consideration of the potato grower. The most profitable size of the sets reported upon by Mr. Maw, has for some years engaged his attention. The composition of various top-dressings, the best period for applying those manures, the value of the salts of potash, either applied by themselves or mixed with other fertilisers, are amongst the valuable researches to which the reader's attention is in these reported trials well directed. The general results he will note are very encouraging, and will well prompt him to continue his readings in that great book of nature whose pages extend over every farm.

FOREIGN AGRICULTURAL GOSSIP.

Annexed is a statement showing the receipts and shipments of wheat at Milwaukie for the thirteen years ending with 1870, inclusive :

Year.	Receipts. Bushels.	Shipments. Bushels.
1858	4,876,171	3,994,213
1859	5,580,681	4,732,957
1860	9,108,458	7,568,608
1861	15,930,706	13,300,495
1862	15,630,995	14,915,680
1863	13,485,419	12,837,620
1864	9,147,274	8,992,479
1865	12,043,659	10,479,777
1866	12,777,557	11,634,740
1867	12,523,464	9,598,452
1868	12,750,578	9,878,090
1869	17,745,238	14,272,799
1870	19,060,991	16,027,771

The wheat trade of Milwaukie has thus very largely increased during the last ten or twelve years. If we take account of the receipts of flour as well as of wheat at Milwaukee last year and in 1869 the figures stand thus :

	1870.	1869.
Flour (reduced to bushels)	3,818,075 ...	4,038,815
Wheat (bushels)	19,060,991 ...	17,745,238
Total.....	22,879,066 ...	21,784,053

Similarly, the shipments of wheat and flour in 1869 and 1870 were :

	1870.	1869.
Flour (reduced to bushels)	6,126,700 ...	6,100,290
Wheat (bushels)	16,027,771 ...	14,272,799
Total.....	22,154,471 ...	20,373,089

The receipts of oats at Milwaukie last year were 638,281 bushels, of Indian corn 435,050 bushels, of rye 190,934 bushels, and of barley 585,764 bushels. Butter was also received at Milwaukie last year to the extent of 3,736,632 lbs., against 2,335,000 lbs. in 1869; wool to the extent of 1,959,912 lbs., against 2,501,666 lbs. in 1869; timber to the extent of 79,491,000 feet, against 72,382,000 feet in 1869; dressed hogs to the number of 94,884, against 85,351 in 1869; live hogs to the number of 67,377, against 58,296 in 1869; and cattle to the number of 13,118, against 12,221 in 1869.—The United States Congress has been occupied to some extent

with the question of the public lands of the Republic. Mr. Julian has prepared a bill which reserves hereafter all the remaining public lands to homestead and pre-emption settlement only. The chairman of the Committee on Public Lands is hopeful of passing this important measure. Two other bills are pending, reported from the same committee. One extends the provisions of the land laws to Alaska. It appears that speculators are working coal lands there, and stripping the most valuable timber along the coast. The other bill is one defining swamp lands. It is charged that large quantities of lands have been fraudulently included in the designation "swamp lands." By this bill, no land not permanently liable to overflow can be construed to be swamp lands.—Formerly there were large quantities of alzada or wild cattle in the Argentine Republic, but the Indians have left but few on the frontiers. In seasons of drought cattle sometimes stray hundreds of miles in search of water, but unless they calve on their new pastures, they invariably return to their "querencia" after the drought. It is stated that cattle-farming still yields fair results in the Argentine Republic—say twenty to thirty per cent. on the capital invested.—The fact is probably not known—certainly it is not appreciated—that Brazil has a greater area than the United States. She has probably also as much cultivable soil, but her population is only about one-fourth that of the American Union. Brazilian statesmen of all parties are agreed in declaring that immigration is the great and pressing want of Brazil; but, notwithstanding this unanimity, the question of simplifying and encouraging the transfer of land in Brazil, both in the interests of immigrants and the native population, has received no attention, except in regard to the small areas comprised within the limits of the Government colonies. One of the first requirements for the encouragement of spontaneous immigration into Brazil is the removal of the difficulty attending the transfer of land. It is argued by those who have given thought and attention to the subject that while "spontaneous immigrants" have to await the tiresome formalities and endless delays which attend purchases of land from the Brazilian Government, and the costly and tedious processes attending the making of sound titles to private lands, immigration will remain a dream. If so, more's the pity, as Brazil has undoubtedly vast resources. Another drawback to emigration from Europe to South America is the war and strife which seems to constantly curse, to a greater or less extent, that part of the world. Thus the Government of the Argentine Republic has a formidable rebellion now on hand in the province of Entre Rios, and little progress appears to have yet been made in securing a return of order and tranquillity. Just when the Argentine Republic seems to promise well as an emigration field, this rebellion is especially mortifying. Bolivia has also a revolution to deal with.

AGRICULTURE IN ITALY.

Amongst the startling events which have occurred in such rapid and unexampled succession during the past two months, there is none more important than what has taken place in the Italian Peninsula. There the policy of Count Cavour has seen its successful fulfilment, and the Italy of to-day stands forth before the world in all the majesty of united strength. Whilst others will pourtray the political and social aspects of this significant occurrence, we will endeavour to gauge, as accurately as the means at our disposal will permit, that which more especially concerns the agricultural resources and productions of the country. Here we are met in the outset by a difficulty which does not, happily, exist either in France or the United Kingdom: we mean the absence of any authentic official record of the distribution of the crops, such as is published annually by the Board of Trade. We are therefore compelled to take what are generally accepted as the best approximate accounts; and we have such in the "Annuario Statistico," by Dr. Maestri, published at Florence, the comparative statistical researches of Mons. M. A. Legoyt, the reports of her Majesty's Representatives upon the tenure of land, and what may be selected from the miscellaneous matter contained in the commercial reports of her Majesty's Consuls.

From all these sources it is quite possible to arrive at a sufficiently correct estimate for our purpose; for in most cases the information is gained by inquiries made of the leading landowners upon the spot, or is the result of communications with the members of the agricultural societies distributed throughout the provinces. It is well to observe that European agriculture presents two distinct aspects, one arising from the nature of the soil, and the other from the mode in which the soil is cultivated. Italy, Spain, Portugal, and Turkey, with a part of France, form the southern zone; whilst Belgium, Holland, Switzerland, England, the other portion of France, nearly all Germany, the Scandinavian Kingdom, and three-fourths of Russia are contained in the northern zone. This is the geographical division. The zone with the large occupations comprises England, Germany, Russia, Spain, Portugal, and Turkey; and the small subdivided properties are to be found in France, Belgium, Switzerland, Holland, and a portion of Italy: and this is the economic division.

We find that in 1865 the distribution of the soil in Italy, including Venetia and the Roman States, was stated as follows: Arable lands, including vineyards, covered 29,749,167 acres; natural and artificial grass, 3,472,772; rice plantations, 363,742; olive groves, 1,503,327; chesnut groves, 1,609,987; woods and forests, 12,088,822; pasturage, 16,794,847; making a total of 65,582,614 acres. From the same source we find it stated that lakes, marshes, &c., covered 3,005,885 acres, and waste lands from six-and-a-half to eight million acres. One-half of the soil that is cultivable is devoted to the growth of the cereals, whilst the meadow and artificial grasses form but four per cent. of the superficies. This last proportion is an indication of an apparent fact—that the agriculture is wanting in a sufficient number of cattle, and consequently in the requisite quantity of manure. Upon this head, we find the numbers given as follows: Horses, 1,462,816; cattle, 4,007,476; sheep, 9,736,101; swine, 4,059,021; goats, 2,615,427. The cereal productions are also much below the average of other countries. According to M. Maestri,

of wheat the annual average is 101,484,236 bushels; maize, 48,728,339; rice, 3,972,325. The other most important products are chesnuts, 15,771,000; potatoes, 27,894,157; vegetables, 11,899,178 bushels; oil 1,775,256 hectolitres, and wine 84,977,849 hectolitres. Resulting from these calculations the produce would seem to suffice for the populations, but the exterior commerce points to a different conclusion. In 1864 the collected imports of agricultural products are given at £28,540,208 sterling, and the exports at £19,345,940, showing a difference of £9,194,386. Silk, wine, fruits, vegetables, &c., however, serve, in a commercial sense, to restore the balance of trade against the kingdom of Italy.

These conclusions respecting the peninsula as a whole do not, however, apply to the plains of Lombardy, of Piedmont, and the northern portions which are irrigated by the means of former systems, and also by the recently-constructed Cavour canal. In Piedmont, upon the authority of Mr. Colnaghi, we learn the superficial extent contains about 18,000 English square miles, the proportion of mountain and hill to plain land being as 0.774 to 0.226, and the population in 1861 numbered 2,764,263 persons. In the hill region, and more particularly where the vine is nurtured, the land is chiefly in the possession of the small and medium proprietors, the lots averaging from $1\frac{1}{2}$ to $7\frac{1}{2}$ acres; in the fertile and irrigated plains, especially where rice is grown, large estates are the rule; the land is divided into properties varying between 100 and 3,500 acres, and even more. These are, in general, leased out to farmers, who form an important and wealthy element of the rural population. The landed proprietors are as 18 to every 100 inhabitants. The principal products of the soil are wheat, rice, Indian corn, oats, rye, and other grain, vines and mulberry trees, clover, lucerne, &c.; flax and hemp. Fruit, such as cherries, chesnuts, apples, pears, peaches, walnuts, and vegetables. On the rapid slopes of the hills, where the vine is cultivated, intersected with corn, spade husbandry is employed. On the easier sides and in the valleys the plough, drawn by oxen, is adopted. Steam power, in connection with agriculture, has not yet been introduced into the country.

The yield of wheat, notwithstanding the fertility of the soil is not up to the standard of modern agriculture. On an average the product is between 11 and 12 hectolitres per hectare, the English average being 35 hectolitres per hectare. One proprietor in Piedmont (the Marquis E. Di Samburg) has, by a good system, under unfavourable conditions, obtained an average yield of from 20 to 22 hectolitres. The rearing of live-stock on small properties is an object of no special care. In the mountain district of Ossola, cattle, which form the chief wealth of the mountaineers, are kept in a stable all the winter; during summer they are pastured on the hills and Alpine heights, as far as the Swiss territory. The animals are herded by the family of the owners, or are entrusted "à cheptel" to professional herdsmen. Although agricultural machines are found now-a-days in all the exhibitions that are held in North Italy, their employment, with the exception of thrashing-machines for corn and rice, is but little extended on large and not at all on small properties, their use having met with obstacles in the customs of the people. There are some, however, for sowing, &c., which are suitable to the country, and the introduction of machinery, which may in time become of great importance, is begin-

ning to increase. Of late years, too, considerable quantities of Peruvian guano and artificial manures have begun to be introduced.

The subdivision of the soil throughout the whole kingdom of Italy is not so great as obtains in France. The number of proprietors is given at 4,180,000 with an average of $12\frac{1}{2}$ acres each. Of the proportion of those who own land to the rest of the population in Piedmont and Sicily it is 1 to 4, Parma and Lombardy 1 to 6, in Tuscany 1 to 18, and for the whole in 1862 it was 17 to 100. The property is most subdivided in Piedmont and in the two Sicilies; whilst Tuscany, Romagna, and Umbria have large tracts belonging to the province, the commune and the religious orders, and these in general are badly farmed. We have in Mr. Colnaghi's report a very pleasing description of a visit to one of the landed magnificos of Piedmont. This was at a farm in the plain of Vercelli, called the "Venaria Vezullese" that formerly belonged to the House of Savoy, but was exchanged by the late King Charles Albert against the palace of the Marquis Durazzo, at Genoa. Rice fields form the principal wealth of this farm: its extent is about 2,500 acres, and the annual rent is about £5000. The farmer possesses 50 yoke of draught oxen, with cows in proportion. He has 12 pairs of mules, horses, ploughs, carts, and all necessary farm implements in profusion. Above 800 labourers are constantly employed, and at harvest time a number of occasional hands are needed. The farm buildings of dark brick, surround an immense quadrangle, near the centre of which stands the farm residence. At the time of M. Colnaghi's visit the Indian corn was being thrashed. On the floor whole families of peasants, women and children of all ages, were working gaily to gather in the fruit of their labours, the Indian corn being shared in unequal parts between the farmer and the labourers. The whole arrangements of the farm, if rough in outward appearance, were in good working order, and would seem to imply considerable agricultural progress.

The cultivation of the vine has received greater attention; the old system of festooning, which presents such a picturesque appearance, has given place to the better method of planting followed by the vine-growers of the Côté d'Or and the Gironde in France. At the wine fair held at Turin last year, 103 proprietors presented themselves in the market with 600 descriptions of wines, forming a total of more than 148,000 bottles. The object of the Societa di Gianduja being to promote a trade in, and not an exhibition of wines, the prizes and medals were only awarded to qualities of which 50 bottles at least were actually brought to the fair, and it is intended in future to raise the minimum to 200 bottles.

Throughout the extent of modern Lombardy a similar activity is observable. The agricultural productions are many and varied, and extend from the lemon and olive trees of the Lake of Garda to the pasture grounds of the Alps. Vines and mulberry trees, with wheat, Indian corn, and other grain, are grown on the hills and upper plains; while rice, flax, and hay form the chief products of the irrigated lands. The country is rich in silk, cheese, and butter. The products of the mountain districts are obtained by the hard labour of the owners of the soil. The use of the spade prevails, the plough being only employed on the level ground of the valleys. In the valleys rye, barley, potatoes, buckwheat, and maize are grown; but not in sufficient quantity to supply the wants of the inhabitants. The slopes of the hills are covered with chestnut trees, important not only for their timber but their fruit, which is consumed in large quantities by the people of the plain as well as the mountain. The rearing of cattle has lost some of the importance it possessed in an earlier period of Lombard history; still the breeding

of calves—a great gain to the peasant—is actively carried on, especially in the villages. On the small farms in the valleys cattle are always maintained, generally in sufficient numbers for draught purposes and for the supply of manure. The general opinion prevails that the small properties are suitable to the hill districts and non-irrigated plains and lands where the vine is cultivated; but not to the irrigated plains; and the general practice of the country would seem to conform to this view of the question.

In the Venetian provinces, when the harvests were good and there was a surplus of wheat and maize, the market price of provisions at Messina was for beef 8d. to 10d. per lb., bread $2\frac{1}{2}$ d. to $3\frac{1}{2}$ d., cheese 7d. to 8d.; eggs 7d. per dozen, flour $2\frac{1}{2}$ d. to 3d. per lb., fowls 1s. 8d. to 1s. 10d. each, potatoes 9s. per cwt. Barley, oats, and rye are not cultivated to any great extent in these provinces, but are always imported for local use from the Levant and the Black Sea. That the conditions under which the agriculture of Italy is conducted are of a chequered character we learn from Mr. Consul Walker at Cagliari, who gives a graphic description of what happened to the husbandmen in the island of Sardinia during the year 1868. It seems the whole of the crops, with few exceptions, were completely devastated by the immense inroad of locusts from the coast of Africa, which alighted on the wheat and barley crops that promised to yield an abundant harvest, and, with few exceptions, not only ate the ears of grain but also the straw; in fact, no green herbage was free from their attacks, and even the houses were visited by them in shoals, and every piece of drapery they alighted upon was immediately riddled through and through. The consequence of this frightful visitation was, the poorer classes had nothing to subsist upon but herbs and roots which they gathered in the mountains and forests. The people generally are described as very superstitious, and owing to their inactivity the soil, which is otherwise productive, is made to yield nothing under any circumstances. Their mode of life is most primitive, in habits resembling those of the nomad tribes: their villages are built of soil bricks baked in the sun: they subsist on bread, oil, and olives; and if a feud occurs in a village, and a murder is committed by any member of the community, the perpetrator is sure to meet his death, sooner or later, from the parents or relatives of the deceased: the vendetta practised there being very similar to that which originally existed in the island of Corsica.

The cultivation of the land in the Roman States presents a great variety of systems, varying according to the special conditions or the wants of local consumption, and dependent upon the nature of the soil and the productive capacity of the people. The produce consists of wheat, maize, rye, oats, buckwheat, hemp, vines, mulberries, chestnuts, olives, and fruits. In the "Agro Romano," which is the name given to the land extending around the capital and down to the Mediterranean, the small properties are restricted to the vineyards and orchards around Rome and the towns of its vicinity: the rest is divided into large tenements belonging to pious institutions, and these are inalienable. Most of the land is kept for the four years' rotation, one year corn and three years pasture. With some rare exceptions the proprietors never cultivate the land on their own account, but let it to tenants. They live in town on their rents, and are not even in the habit of visiting their estates, except for a shooting party or a pleasure expedition. The Campagna is not inhabited, but in the autumn numerous companies of peasants from the Abbruzzi and the Marche and other parts, led by their chiefs who are called corporals, descend to the plain for the purpose of sowing. When the work

is finished all these labourers go back to their country to return in June for the harvest. Thrashing and some other machines of English makes are being adopted, but their effects are not yet visible in the general condition of the land.

Before completing this sketch of the agriculture of Italy, we must not omit to mention that the cotton plant has

taken root, and the best results have been obtained in the provinces of Naples, Sardinia, and Sicily, where the average produce is 450 kilogrammes per hectare, and at ordinary prices this would yield a net profit of 180 fr. per hectare. Tobacco is also an important culture, and the growth and manufacture are submitted to the same restrictions as prevail in France.

THE EMPLOYMENT OF AGRICULTURAL LABOUR.

At the meeting of the Botley and South Hants Farmers' Club, Mr. W. Warner in the chair,

Mr. SPOONER read a letter he had received from London, giving an account of what was done at a meeting held there, under the chairmanship of the president of the Royal Agricultural Society, and at which it was decided to raise a fund in order to supply seed-corn to the peasant farmers in France to sow in the land in order to serve the next year's harvest, and thus to avert a famine. The fund was called "The French Peasant Farmers' Seed Fund," and contributions of seed-corn would be received as well as subscriptions. It was not very often that they recommended anything in the shape of subscriptions from the Club, as they were most anxious to concentrate as much as possible for the Club's benefit, but he thought that in this case they might very properly do what they could to assist the French peasant farmer, and thus avert a famine in that country.

The CHAIRMAN said they all knew that the French peasantry were suffering very much from the present cruel, and he might say wicked war, and he thought they ought to show some sympathy with them, however small it might be, and assist them in carrying out that which was for a proper and right purpose. He should be happy to give something towards it, and he hoped it would be taken up generally throughout the kingdom.

The CHAIRMAN then said: I feel that the employment of the agricultural labourer requires not only our consideration, but also the serious and earnest consideration of the whole nation. Most, if not all present, are aware of the great number of able-bodied men out of employment. It has been stated as a reason for this that the country is over populated, that there is not sufficient employment for the population, and that the only remedy for it is emigration. My object will be to show that the country is not over populated, that there may be sufficient employment found for all the labour of the country, and that emigration is the last measure to which we should resort, and only then when all other means are exhausted for the employment of our labouring poor. With regard to emigration, though I would not prevent persons from emigrating, if they had the means and inclination to do so, I would deprecate any assistance being given from the country as a means of getting rid of the so-called surplus population. I look upon the labouring population as the wealth of our country, and our labourers and artisans as the strength and sinew of the nation. Neither money nor land are of use without labour, and if it can be shown that both money and land can be made profitable by the employment of that labour, it should be our duty to keep it, if possible, in the country. There is another consideration which should influence us. Supposing we were invaded by a foreign power (and we are not unlikely to be), to whom should we look to protect us but our stout able-bodied labourers and artisans? When there was a talk of invasion in 1860 the labourers, artisans, and tradesmen, came forward in greater proportion than any other classes. I have by me the constitution of a Volunteer force in the county of Haddington, which is as follows: Merchants and tradesmen 94; surgeons 2; teachers 7; farmers 7; clerks to lawyers, bankers, and merchants, 26; gamekeepers 12; fishermen 8; mechanics and artisans 205; labourers 97; total 458. I merely name this to show the great proportion of the labouring classes (and this remark is applicable to all Volunteer corps), and the position we should be in if we sent them out of the country. Experience tells us it will not do to depend altogether on our men of leisure to defend us. Now, there are many means by which employment may be found for the

labourer. In the first place, I consider it the duty of Government to find employment where it can be done to the benefit of the nation and the welfare of the labourer. I will quote what an eminent writer on agriculture, Albert Thaer, who lived in the last century, says on the duty of a Government: "A Government which recognises and adopts this principle, viz., that the improvement and culture of the soil to the highest degree possible, contributes more than any other thing to the welfare of the country, and to the strength and riches of the State, and that all other considerations of political economy must yield in importance to the necessity of promoting the increase of produce. A Government which recognises and acts on this principle will, by so doing, add considerably to the value of land, and induce foreigners to invest their capital in it." And he goes on to say: "The more numerous the population of a country, the greater is the value of the profit to be derived from the cultivation of the land." I perfectly agree with all this, and I consider the Government, as stewards of the nation, are bound to make the most of the land it has in its own management; and in reference to this I would say that it is a reproach to any Government and a scandal to the nation to allow such a large tract of land as the New Forest to be lying unproductive, while so many people might be employed there to their own welfare and to the benefit of the country. I am happy to see the Government are taking some steps towards the enclosure and utilisation of the land in the New Forest, and I trust they will not be deterred by any opposition from parties who, merely from sentimental or other mistaken motives, wish to keep it in its present discreditable, unprofitable, and unproductive state. I do not pretend to say in what way the enclosure and cultivation of the land should be carried out. There are more competent persons than myself to give an opinion on this point. As to spoiling the beauty of the scenery, I believe that by a judicious system of setting apart the most productive portion of the land for cultivation and planting that of an inferior quality, with parks for recreation and pleasure parties, the beauty of the forest would be much improved, the land increased in value, employment would be found for a great amount of labour, and at the same time a large amount of revenue would be brought to the State. Other means, by which a great amount of labour could be profitably employed, would be the enclosure of commons and waste lands not enclosed; the breaking-up of waste and unprofitable land enclosed in private lands, and the drainage of enclosed lands in cultivation. 1st. With regard to the enclosure of commons and waste lands, not enclosed. It has been stated that since 1775 there have been seven millions of acres of land enclosed in this country, the greater part of which has been brought into cultivation. This has been the means of employing a great amount of capital and labour, and I may venture to say that in hardly any instance has it been allowed to revert back to its original unproductive state. I would quote instances, if necessary, of enclosure of land in this locality—Waltham Chase, Curdridge Common, Botley Common, and many others, where land which was before comparatively worthless and unproductive is now producing good crops, employing a great amount of labour, and paying a rent as high as, or higher, than some of the best enclosed land in the kingdom. Unfortunately, there are instances where large tracts of land have been allotted to parties who have allowed it to remain in its wild uncultivated state, reaping no benefit themselves, and inflicting a serious injury upon the interests of their poorer neighbours from want of employment, and causing a great loss of good to the country. The enclosure of land in such cases I consider an

injury rather than a benefit, and I think it would be a good law that in all future enclosures a stipulation should be made by the commissioners that within a given time all land to be enclosed should be cultivated for corn or other crops, or be planted. This would be the means of making the enclosure both profitable to the owner, as well as to the company at large.

2nd. There is another means by which a great amount of labour may be profitably employed. There is a great quantity of waste and wood land in the hands of private proprietors which is now paying comparatively nothing to the owners. Now, if every owner of an estate were to look around his property, he would see that by judiciously breaking-up some of his wood land and waste, he would receive a greater amount of interest for the capital so employed than on the best portion of his estate. Instead of receiving about 3 or 3½ per cent. for his money invested (which is, I believe, about the usual interest land pays), he would receive at least 5, and in many instances 7 and 8 per cent. for money so expended; he would be also doing a great good by employing a great quantity of labour, and by making his land more productive would be adding to the resources of the country. I have taken the trouble to ascertain the number of men out of employ in the neighbouring unions of South Stoneham and Droxford. In South Stoneham union there are 448 men out of employ, and in Droxford union there are 160 men out of employ. Now, I would venture to say I could point out estates in those different unions where all, and more than all, these men could be profitably employed.

3rd. Another means of profitably employing labour is by draining the wet lands of the kingdom now in cultivation, but not yielding a fair amount of produce. Mr. Bailey Denton, in one of his lectures on draining, informs us that twenty million acres of land remain undrained in Great Britain, and of these about nine millions of acres are clay soil. Now, I believe that those gentlemen present who have had experience of the good effects of draining will say that there is no labour so profitably employed in the land as draining; it is the first and greatest improvement, and without it it is comparatively useless to farm wet land. Tenants willing to pay 5, 6, and 7 per cent. for draining, it is a good investment for the landlord; it is good at the time of year when men most need work; and it not only increases the production of the soil, but also enhances the value of the land, converting what was before a stubborn clay into a rich friable soil, and producing as fine crops of corn and roots as any in the kingdom. Unfortunately, gentlemen, there is a law in our country which prevents the improvement and cultivation of the soil being carried out to the greatest advantage, which is the law of entail. Many proprietors of estates have only a life-interest in their property, and thereby have no inducement to improve it, and however much may be required to be done, it is left undone, and continued on from one owner to another, to the great injury to society, and a great loss to the country. Now, in a country like that, where the population increases 25 per cent. in every twenty years it is quite time this pernicious law should be altered, since it operates so prejudicially to the employment of labour, and against the best interests of the nation.

5th. A great deal more labour and capital would be employed on the land if gentlemen would desist from that excessive preservation of game which is carried on in many parts of the country, which is much to be deplored, and which cannot be sufficiently deprecated. It prevents expenditure of capital on the land, as no man in his senses would spend his money on a game farm, well knowing all his exertions would be useless, and ending, perhaps, at last in his ruin. Many tenants have spoken to me on this subject—one not long since, who is a tenant of a large landowner, told me he had expended a considerable sum in the purchase of manures for his farm, but that he found the hares and rabbits had so destroyed his corn that he should not lay out any more money in manure, but would get back what he could, and give up his farm the first opportunity. This is not an isolated case, but the case of hundreds and thousands of tenants. The preservation of game has been the ruin of thousands; it has prevented capital from being expended on the land; it has been and is the means of many men being out of employment; it encourages poaching—an offence which leads on to other crimes, and it also burdens our poor rates, and fills our prisons. Both public and private opinion has been expressed on the subject, but I am sorry to say (with only a few exceptions) to very little purpose. It is said by

some who approve of game-preserving that we would interfere with the rights of property, and that every man has a right to do what he will with his own, and if he chooses to keep a large quantity of game, however injuriously it may affect others, he has a perfect right to do so. Others have said if you deprive gentlemen of this sport they will leave the country, and spend their incomes abroad. I am afraid those who argue thus do not consider that while property has its rights and privileges, it also has its duties; and I consider that those who by their excessive preservation of game are the means of inflicting injury on their neighbours, and on society at large, are not right, but morally wrong, in so doing. Neither can I conceive that sport should be considered the primary object of a man's life, and to be indulged in irrespective of other considerations. Now it is not the wish of the tenants and those who argue against excessive preservation, or of the public generally, that gentlemen should be deprived of their sport. All that is asked for is that it be rational sport, not that foolish battue shooting where thousands are killed in one day, and where the poor birds are seen running around the legs of the keepers, little knowing the fate that awaits them; but such sport, that while it affords sufficient amusement and enjoyment to the sportsman, should not be carried to that excess which operates so injuriously to the community at large. I have made the game question a part of my subject as I consider it has a great deal to do with the employment and welfare of the labourer. I also consider it a growing evil, and if not checked will become a curse to the country. The population of our country is about thirty millions. Now, according to Mr. Caird's statistics, in which he is borne out by Professor Leone Levi and other eminent agricultural writers, we only produce food for twenty-one millions, leaving us deficient of food supply for nine millions of our people, for which we are dependent on foreign countries. Now, if we were at war with America, or with any of the continental countries—Russia, for instance—which may happen any day, in what state should we be? We should have corn at a famine price, and with a great number of people out of employ, it would lead to a great distress, and perhaps disturbance in the country. How necessary it is, then, that we should try to make ourselves independent of foreign supply. I have endeavoured to show how more food can be grown for the people, by the employment of more labour and capital in the land. Captain Maxse, in his excellent lecture in our last session, told us of the enormous quantity of land not cultivated in this country, amounting to near twenty millions of acres, a great portion of which is capable of cultivation. Mr. Bailey Denton has told us of the large quantity of land capable of improvement by draining, and other improvements. Now, if landowners and occupiers of land would look on this subject not only as affecting themselves, but as affecting the best interests of the country at large, they would find that we not only could grow food sufficient for our own population, but we should be keeping some eighteen or twenty millions of money in the country, which, by circulating amongst the producer and consumer, would in the end repay any outlay incurred by the landowner and occupier. We should find that the manufacturers would be consuming our corn, we in turn consuming their manufactures, thereby making the country self-supporting, and not dependent on others. We should also—from having our labourers and mechanics employed—have less poor-rates and less county-rates, and from having less idle men we should have less criminals, as we all know that idleness and poverty are the parents of crime. That we could do so I will quote Mr. Mechi. He says, "What a happy country this would be if, by freedom of agricultural action, and by investment of ample additional capital and intelligence, we could produce our own food as we manufacture our own clothing and other necessities, and in the act of so doing employ more of the British people, thus diminishing suffering and pauperism, and increasing the wealth, strength, and content of our country. Experience has taught me that all this could be profitably done, and I pray that those who have the power may be moved to encourage by suitable and improved legislation, and by every other means, so desirable a result"; and he goes further on to say, "let us, then, resolve to amend our agricultural ways for our own profit, and for the good of the country." I quite agree with Mr. Mechi; but to obtain so desirable an object, to whom must we look? In the first place we must look to the landowners of the country; without

their consideration and assistance we can do nothing towards increasing the productiveness of the land, or the employment of the labourer; and I would appeal with all respect and sincerity to owners of property to reflect on the great responsibility attached to the possession of land. It has no doubt great rights, great privileges, great advantages, and gives great enjoyment to the possessor, but it has, at the same time, great duties to perform. On owners of land it depends whether this country shall be a rich and prosperous country; whether employment shall be found for all living in it; whether we shall produce sufficient food for the nation, so as to be self-supporting, relying on ourselves, and independent of foreign countries; or whether we shall remain as we are, with thousands out of employment, producing food for only two-thirds of our population, and dependent on foreign countries for food for one-third of the people. I feel assured, if all landlords could realize and would endeavour to carry out this idea, they would be the means of doing a great good; they would command the respect and esteem of all around them; in benefiting others they would benefit themselves, and in reality be great benefactors to their country. They would also in this be assisted by their tenants, who, having the co-operation of their landlords, would willingly invest more capital on their farms, which is much wanted, and they would be also assisted by all around them. There would be no distrust between landlord and tenant, and we should then in reality, both landlord, tenant, and labourer (to use the common saying) be found rowing in the same boat, actuated not alone by our own individual interest, but by the interest of the whole community. Some landowners may not be in a position to make so great an outlay as is here required, but as this would be a national benefit, I think the Government would be only doing right in assisting those landowners to carry out so desirable an object, by advancing money at a moderate rate of interest, to be repaid in a certain time. Perhaps some may say this scheme is too good to be carried out. Of course all cannot be done at once, but where there is a will to do good there is always a way found to do it, for

He that thinketh good, good may do,
And God will help him thereunto;
For never was good work wrought,
Without beginning of good thought.

In giving you my ideas I trust I have said nothing that may appear offensive to the feelings of any party. If so, I must ask to be pardoned, as it was not my intention to do so. My object has been to keep as close to the subject as possible, and to make such observations as can be practically carried out, I have endeavoured to show how labour can be employed to the advantage of the landowner, tenant, and labourer, and to the country at large. If I have failed to do this, I must ask you, gentlemen present, to correct my errors. In conclusion I would say, as employers we are apt sometimes, during the short days of winter, to reduce our labour, thereby throwing many men out of employ, who are obliged to come to the parish for relief. Now I think if we were to look at it in a business light (irrespective of higher considerations) we should find that it would be more to our interest to keep them employed if possible, earning something, than to be living in idleness, earning nothing. They must not be allowed to starve, and if the employer does not bear the whole of the burden of supporting them while out of work, he does the greater portion of it. Neither should we forget that the only property the poor possess is their labour, and, knowing how dependent they are on us for support, we should be only doing our duty in showing our consideration towards them, by finding them employment that they may be enabled to support their wives and families. As my subject is essentially affecting the welfare of the poor, I will finish in the words of One who was in every way the poor man's friend—"Blessed is he who considereth the poor."

The Rev. J. M. LEE wished to know how Mr. Warner had obtained the information as to the number of men out of employ.

The CHAIRMAN replied that he had got them from the surveyor of roads in that district, who had obtained them from the different people of whom he had made inquiries. In the South Stoneham Union there were 446 out of employ, viz., in Botley parish, 34; Bursledon, 12; Westend, 23; Millbrook, 200; South Stoneham and North Stoneham, 100; Bitterne, 25; Hamble, 7; St. Mary Extra, 20; Hound, 25. In Droxford

Union there were 160 men out of employ, distributed as follows: Bishop's Waltham, 16; Droxford, 43; Durley, 7; Corhampton, *nil.*; Exton, 8; Hambledon, 16; Meonstoke, 6; Upham, 16; Warnford, *nil.*; Westmeon, *nil.*; Soberton, 16; in the Union-house, 32.

Mr. JAMES WITHERS said there were ten men out of employ at Durley.

The Rev. J. M. LEE: Do you wish it to go forth that there is this number of men out of employ at this particular season?

The CHAIRMAN: Yes, at this particular season.

The Rev. J. M. LEE said this cold weather kept many men out of the woods who would be at work there if it was not so severe. These could not be said to be unemployed.

The CHAIRMAN remarked that he had merely obtained the number of men not at work at the present time, and his object was to make more work for people who wished to take the advantage of it.

The Rev. J. M. LEE said his reason for asking these questions was in order to find out if he possibly could how many of the 446 were really out of employ. He took it that the breaking up of the New Forest would not employ all those people, as many of them were skilled mechanics and artisans.

The CHAIRMAN: There would be a great many more employed than there are now.

Mr. SPOONER: And it shows the necessity there is that something should be done.

The Rev. J. M. LEE said he might mention that a farm carpenter was thrown out of work in consequence of the severe weather, and he was instructed to offer him the loan of a sovereign, but the man thanked him, and said he did not desire it. He said that he should be glad to go to work again, and would do any then, but there was no doubt such men saved up a little in the summer in order to provide for such times in the winter, and therefore they could not be reckoned among the permanent unemployed.

Mr. C. MILWARD, Q.C., said he was sure they must all feel thankful to Mr. Warner for the way in which he had introduced the subject, and he had no doubt his suggestions would result in great advantage, but there was one thing which he did not think he could agree with him upon, and that was when he spoke of the Government being called upon to do the work of reclaiming the waste lands.

The CHAIRMAN replied that he did not ask the Government to do the work, but merely to advance the capital needed.

Mr. MILWARD said he thought Mr. Warner was speaking to the effect that the Government should reclaim the waste land in the New Forest themselves, and all he could say was, "Heaven help us if they had to do it" (laughter). He said this because he believed a lot of money would be badly spent, and when the work was begun they would not know when it would end.

The CHAIRMAN explained that he meant the Government should utilise the land.

Mr. MILWARD said that would be all very well, and he maintained that the Government had no right to be landowners, but the people of England should be able to derive a benefit from their waste lands. He was not what might be termed a destructive by any means. He would rather see the beautiful trees, the places of amusement, and the lively spots protected as they were at this moment, and he thought this might be done, but at the same time he considered that they should be made profitable and a benefit to those who had charge of them and the nation at large. A great many owners of large estates were surrounded with the difficulty of the law of entail. He was not fond of that law, but he did not see that England they could do without it. Mr. Milward then alluded to the law in existence in France, where each person in most cases took a share in the lands, and thus it was split up into small estates, and said he did not think such a law would do here, as it was necessary that they should have landlords who were men of position, and who could hold their proper positions in England. He should be rather afraid that this would not be the case if they did away with the law of entail. He agreed with Mr. Warner that this might be remedied to a great extent if a landlord would be able to raise a loan for the improvement of his estate from the Government. This had already been carried out to some extent, but not so large as it should be, and in many instances the system had worked exceedingly well. The money could be advanced

upon a certain term of interest, which would be charged upon the estate, for permanent improvement, and then the owners of property would feel inclined to improve it, but now in many cases they did not do so when they knew that the money they were spending was being taken out of their pockets for the benefit of those who came after them. This sort of thing was carried out with great advantage in Ireland in 1848. An arrangement was then made, it was a simple one, and worked extremely well. The Government then advanced any amount of money that was needed for erecting farm buildings and all kinds of farm purposes which were of a permanent character. They had a charge of $6\frac{1}{2}$ per cent. on it, and so much of the capital was to be paid back every year, so that the Government really lent their money at about $3\frac{1}{2}$ per cent. The money had to be paid off in $22\frac{1}{2}$ years, and he could tell them of his own knowledge that in one district men, women, and children who had before been almost starving were set on to work, and thus the poor-rate was saved. That money supplied in this way saved an estate from almost insolvency; it gave work to the people, and in every sense did a great deal of good. He did not see why that principle should not be adopted in this country. Great improvements on a farm could not be made by the tenant, but must be done by the landlord, and he should like to hear the opinions of some of the members of the Club on it. The reclamation of waste lands entailed much expense, but they could see what had been done in that way in that part of the county. He agreed *sub modo* with Mr. Warner with regard to game. He did not think in that part of the county they suffered from an over-preservation of game.

A MEMBER: You need not go very wide to see it.

The CHAIRMAN thought Mr. Milward would not have to go very far, as he might speak for himself.

Mr. MILWARD did not think he could say much for himself, for he could not get any pheasants when he wanted them. But at any rate they would be living on his own farm. He honestly confessed that he did not know of any estate in that district which was overrun with game.

The CHAIRMAN: I do; a great many, and not one hundred miles of Botley.

Mr. MILWARD continued: Then all he could say was that he should like to be in at the death of the game. At any rate he was not overburdened. Many farmers complained of the game on their farms, and that was the result of a bad bargain. If tenants were not so eager to cut one another out and take the land as it was they could make better bargains with the landlord, but as soon as a farm was void now there were so many after it that they did not get a condition attached that the game should be cut down. The landlord got the rent and the game too, and he was quite right in taking advantage of the farmer if he was fool enough to take land, which was not capable of paying him with the game on it. There was a third party to consider with regard to this question, and it was the labourer, who often got employment in a day's *battue* shooting. Sometimes he got something else, and it was that he got shot into the bargain. Game on a farm might be a temptation to poaching, but he did not think that it very much interfered with the labouring man. He had touched upon what the landlords could do in the reclamation of land, and he had a word to say with regard to the farmers. By employing labour they saved the poor-rates, and it was to their interest to keep them as low as they possibly could. The question was, did they (the farmers) employ as much manual labour on the farms as would pay them? He often went over farms where he saw there was a great scarcity of labourers. Many things were left undone for the want of a little elbow grease. He did not mean to say that it would pay in all cases. He thought there were a good many farmers among them who did not employ as much labour as would pay them. Much might be done in the shape of weeding, hedging, ditch cleaning, and clearing up work on the farms, and he would ask the employers of labour present whether they could not do something themselves towards keeping down the poor-rates, which after all came out of their pockets.

Mr. JAMES WITHERS said every one must acknowledge that the subject was a well chosen one, and that it had been very ably introduced by Mr. Warner. A more suitable or appropriate subject for the present times could not have been selected, and he was persuaded that a more competent and better qualified person than Mr. Warner could not have been chosen

to introduce such a subject, because he had, and still continued to put in practice all which he himself advocated. There was a saying to the effect that property had its duties to perform, as well as its rights and privileges to claim, and he would venture to say that if every owner of land in the kingdom had done so much as Mr. Warner had, and still was doing, by reclaiming waste land and by improving that which was already cultivated, there would have been no necessity for bringing such a subject before the Club, because there would be no distress, or likely to be any arising from the want of employment. There would be no necessity for sending working men over the seas to cultivate foreign wastes for food which we consume, because there would be no spare labourers to send, and most probably a cry would be raised for more labourers in the market to keep down the price of wages, while some millions of pounds annually would be circulated at home, in lieu of the purchase of foreign food for millions of our own population. They often heard of great benefactors, gentlemen who contributed most liberally towards the relief of the distressed poor, but far better was it to put the working man in a position to help himself by productive labour than by doling out gifts of charity when in distress; and he who could devise the best means to produce the most of permanent and productive employment to the working classes was in deed and in truth one of the greatest benefactors to his country. The building of ships, &c., simply for the purpose of employment was not productive labour. The erection of buildings which were not required was not productive employment, but a tax upon the industrious, and was, in fact, labour lost, like lost time, which was never found again. The wealth of every nation had its groundwork in the cultivation of the soil, and it was in proportion as waste land became cultivated, and cultivated land was rendered more productive, that capital arose for the purpose of trade, commerce, and manufacture. If it was required of him to devise some plan which should ultimately tend to England's greatest wealth and future prosperity, he would unhesitatingly say, "Break up the waste land of England." There were, he knew, a few individuals who would throw cold water on this subject. One said that the waste land was too poor to cultivate, and if cultivated would soon return to waste again. Another would make it appear that the New Forest and other similar wastes was a benefit as it now was, while others thought they could not afford to sacrifice the beautiful scenery. He had, however, during twenty-five or thirty years past, seen some thousand acres of what was termed poor waste land brought into cultivation, but he did not know of any such return to waste again because it was too poor to cultivate, and some of this had, to his knowledge, produced twelve sacks of wheat to the acre, and twenty-four sacks of oats; but no one seemed to know that such was good land until labour had been applied to it, it always having the name and appearance of poor waste land. As regarded the native beauties of the Forest and other wastes, he would simply remark that such would afford no beauty to the poor hungry unemployed labouring man. He knew that the proposed plans would be detrimental to the interest of a few individuals, and perhaps it would be impossible to confer a national benefit of any kind without it, but should they consult the interest of the few and starve the many? Could they sacrifice the welfare of thousands, nay millions of our fellow countrymen, for the pleasure and the profit of a few individuals? It must be wrong that so many millions of money should be annually sent over the seas to enrich foreign lands, while they had so many working men who needed employment, such a large consuming population, and such a very large proportion of waste land in England, wastes which needed the very bone and sinew of our working men to enrich our own country by more extended cultivation. At all events, present circumstances call loudly both to landlord and tenant, and to legislative gentlemen also, for the employment of our increasing working men. Much might be done by the joint efforts and co-operation of landlord and tenant to alleviate the suffering of men unemployed by the increase of productive labour, which would prove beneficial to themselves and to the country at large. There were many thousands of acres of land which needed draining in that neighbourhood, and would be a benefit to all concerned.

Captain MAXSE thought all would agree that there was much waste land which was fertile and ought to be under cultivation, and he took it that this would not only benefit the country but would take up much of their unemployed labour. He had gone

into figures which could not be impeached, and he maintained, that he was right in saying that there were eleven millions of acres of land in this country which was not cultivated. He did not then pretend to say how it should be brought into cultivation, and he did not think the landlord, the farmer, or the labourer were to blame in this matter. It was the land system, which prevented capital and labourer from going into the land. The law of entail, of primogeniture, in case of intestacy, and he must say the comical system of conveyancing were great evils. By it land was kept in a few hands, however worthy they might be, and thus was shut up. Something had been said with regard to game being a bargain between the landlord and tenant. The initiative rested with the landlord, who had the best of it in driving it. There were always a great number of claimants for a farm and the land, and thus they saw the landlord had the opportunity of making his own terms accordingly. He might select a man who would put up with a great deal of game. He should like to see the resolutions they passed not mere barren ones, but that they should use their influence to get the land system altered, and this could be done at a Parliamentary election. When an election came they should protest against it, and should aim a blow at the cumulative land system. If a man came forward to represent them in Parliament, he would ask him if he was in favour of the abolition in cases of intestacy of the law of primogeniture, of modifying the law of entail, and of getting a cheaper mode of conveyancing property. If this could be done it would tend to bring more land under cultivation and tend to lessen the poor-rates, and he was in favour of land being conveyed at the expense of the state.

Mr. MILWARD said while he agreed that conveyancing was very costly there was something to be said on both sides. He might mention that a court was established three or four years ago to render the conveyance of land more easy, but almost nothing had been done there, but if gentlemen did not choose to take advantage of it, it was their own fault, and not that of the Government.

Mr. RICHARDS said the game question was a very sore one to him, and therefore he could speak with some feeling on the matter. Mr. Milward had said that he did not think that game had much to do with the labour on the farm, but he could tell him where there were only half crops on the land only half the labour was employed there, and that was the case in many districts in Hampshire. It also tended to demoralise the poor, fill their prisons with poachers, and others who committed depredations arising from it.

Mr. SPOONER said among the many subjects that had been discussed that evening, there was that of game, but he thought they had hunted on all sides instead of going in that which really was before them. They had not only considered the agricultural labourer, but they had also spoken of waste lands, of the preservation of game, and, among other things, they had gone into the law of primogeniture. He could not help thinking that in the discussion the true scent laid down had not been followed, and surely their object was to see if they could not succeed in getting some suggestions whereby the labouring man might be more extensively employed during the winter. He said during the winter time, because in the summer months there was no difficulty about the matter. All men could then be fully employed in the South of England. There would always be a large amount of infirm and aged people, who had done their work on the farms. They had been paid for their labour, and the farmer so far had benefited by them, and it was necessary that in their old age these should be supported. In providing for these, people must submit to local taxation. He would quote a quaint old Act bearing on the subject, and to which Sir George Jenkinson had alluded lately though not on the same question as they were now discussing. It was passed in the time of Elizabeth, and was as follows: "Be it enacted by the authority of this present Parliament that the churchwardens of every parish, and four, three, or two substantial householders there, as shall be thought meet, having respect to the proportion and the greatness of the same parish and parishes, to be nominated yearly in Easter week, or within one month after Easter, under the hand and seal of two or more justices of the peace in the same county, whereof one to be of the quorum, dwelling in or near the same parish, or division where the same parish doth lie, shall be called overseers of the poor of the same parish; and they, or the greater part of them, shall take order from time to time, by and

with the consent of two or more such justices of peace as is aforesaid, for setting to work the children of all such whose parents shall not, by the said churchwardens and overseers, or the greater part of them, be thought able to keep and maintain their children, and also for setting to work all such persons, married or unmarried, having no means to maintain them, and use no ordinary and daily trade of life to get their living by; and also to raise weekly or otherwise (by taxation of every inhabitant, parson, vicar, and other, and of every occupier of lands, houses, tithes, impropriate, propriations of tithes, coal-mines, or saleable underwoods, in the said parish, in such competent sum and sums of money as they shall think fit) a convenient stock of flax, hemp, wool, thread, iron, and other ware and stuff, to set the poor on work; and also competent sums of money for and towards the necessary relief of the lame, impotent, old, blind, and such other among them being poor and not able to work; and also for the putting out of such children to be apprentices, to be gathered out of the same parish, according to the ability of the same parish, and to do and execute all other things, as well for the disposing of the said stock, as otherwise concerning the premises, as to them shall seem convenient." He called their attention to this in order to show that at that time they were compelled to find work for the unemployed during the winter months, and because that laid to the bottom—the very root—of their present difficulty. There might be labour to do in times of fine weather, but during the short days, and when the weather was very inclement, there was very little profitable labour to be done on farms. There were many farmers who could employ a larger amount of labour which would be profitable, and there were many who would employ much less in the winter than the summer if they looked to profit alone. They would not think it their duty to keep a man on in summer and winter. He thought that pointed out their difficulty. When the Act he had quoted was passed the people could be employed in weaving and such like, but that had been done away with by the general introduction of steam power. What they wanted was to find out whether they could not devise some means by which the unemployed might be employed during the four or five months of the winter. He considered that boards of guardians should look forward to find employment, and the parish roads might be repaired by those who were out of work. A surveyor was appointed now to overlook it, and the chief thing was to get it done as quickly as possible. It was done by contract, and when the days were long. He thought if the matter was placed in the hands of a few business men they would devise the means to employ their surplus labour, and if the roads were repaired during the four or five winter months it would be much better. He would ask them if there were not some roads which might be improved and made much better than they were at present? Were there not many teams which had sharp hills to climb, and whose owners would be glad to have them lowered? Surely it would be better to employ men in lowering such hills instead of having them inmates of the workhouse. He thought the guardians should consider well what could be done in difficult times, and that time was now come upon them. He considered that emigration was a very poor relief for it. They ought to keep good men there when they got them, but of course if a man had the wish to go by all means let him do so. It was not right to get rid of useful men, but at the same time they had a right to go to their friends. Emigration should be encouraged to a moderate extent to those who wished to go, but they should not get rid of those who might be the means of saving this country from an enemy if it was attacked. With regard to the land the landlords should join with the tenants in using every means to employ labour, and the land should be put into the hands of able men, who knew what was required, and give him the man who had plenty of money and a good intention. Some said that the Duke of Buccleuch, the Duke of Sutherland, Lord Leicester and others had too much land, but give him the men who had the means of employing labour and making the land supply that which it could not under other systems. In France they did not employ anything like the labour they did here. There was not the amount of capital used, and notwithstanding they had a more fertile country and a better climate they did not raise the amount of produce. He had no doubt that some beneficial alteration could be made with regard to the land laws and very likely with reference to the laws of primogeniture, but such a sub-

ject should be discussed by itself, and not dragged in as a fanciful solution of the subject before them. What they should do was to think how best they could keep the men employed during the winter months, in order that they might have their assistance at a time when it was of the greatest importance. They must also consider how the labour employed and the capital expended could be remunerative. He had no doubt great reforms would be introduced, that the waste lands should be broken up and cultivated, and that the land laws should also be broken into and improved too.

The Rev. J. M. LEE said one or two questions suggested themselves from what he had heard. In the first place there were generally a large number of people out of employ in the winter, and he could tell them that there were some in his parish who always expected to be out of employ at this time of the year. These were mechanics and artizans, who earned such wages in the summer that they could afford to loose a week or two in the winter. Then there were some who were out of employ in consequence of the hard weather, and who would not come before the board of guardians. If they did what Mr. Spooner suggested, he thought the farmers would be very loth to employ them summer and winter. They generally found it was not the thrifty but the idle and bad characters who applied to them, not able-bodied men. If they broke up the New Forest he thought that it would not effect what they desired, not that he desired to keep the forest on account its beauty, for he should not think of that if it would find work for men out of employ. The question of employing men in the summer as well as the winter months was a difficult one, but he would ask the farmers to employ them all the year round if they possibly could. Mr. William Warner kept his men employed during the winter months, and he had often taken on a man when he (Mr. Lee) had asked him in order that there should be no distress. He took very great interest in the agricultural poor of that immediate neighbourhood. Mr. Thomas Warner was a guardian of the South Stoneham Union, and he could tell them there were very few able-bodied men in the house, and nearly all those there had lost their situations, or there was a disinclination on the part of employers to give them work.

The CHAIRMAN, in reply, said the following extract would show that there was some necessity for doing something with the New Forest: "Now, assuming that it may be desirable to preserve the choice sites of the forest for the sake of the scenery, let 20,000 acres out of the 60,000 be set apart and offered in convenient lots for residential purposes. Calculate the same at the very low figure for such property of £50 per acre, and we have a snug little *million* in our pockets at once. Appropriate the remaining 40,000 acres to cultivation, and allotted as proposed in the above article, on long leases, at a rental of say 15s. per acre for the *first* term—afterwards to be increased, probably, to 25s.—subject, however, to tenant indemnity and compensation upon the principle of the Irish Land Bill, and we have an income of £30,000 a year, representing a *principal* of nearly another million, together an absolute value to the country of two millions, in the place of a *loss* with which we are now debited of £223 per annum. It will be seen the benefit by no means stops here. We have a further investment of capital of £600,000, at the rate of £15 per acre for clearing and stocking. As mentioned last week, an annual outlay, or value in personal labour of one pound per acre, being equal to the constant employment of *one thousand men* at 15s. per week (nearly

and giving an annual return in produce at £8 per acre, of £240,000—if occupied in small allotments, very much more." He thought he had shown that more labour could be given by breaking up the New Forest and other waste lands, and with regard to the game, he might have told Mr. Milward that there was a place not 100 miles from Bishop's Waltham which could not be let in consequence of the game, and a portion only was let the other day. With regard to what Mr. Milward had said—that the game was a bargain between landlord and tenant—the tenant had no choice. With reference to what Mr. Spooner had said, he might remind him he said nothing about the employment of women, and he (Mr. Warner) thought they would be much better employed in looking after their husbands and families, and also that large landowners threw a deal of land out of cultivation.

Mr. SPOONER said they had been talking about the landlords, but he thought they would bear favourable comparison with those of old as was shown by a form of prayer for them, used in the time of Edward VI. It was as follows: "The earth is thine, O Lord, and all that is contained therein; notwithstanding that thou hast given the possession thereof unto the children of men, to pass over the time of their short pilgrimage in this vale of misery. We heartily pray thee to send thy Holy Spirit into the hearts of them that possess the grounds, pastures, and dwelling-places of the earth, that they, remembering themselves to be thy tenants, may not rack and stretch out the rents of their houses and lands, nor yet take unreasonable fines and incomes after the manner of covetous worldlings, but so let them out to other, that the inhabitants thereof may both be able to pay the rents, and also honestly to live, to nourish their families, and to relieve the poor. Give them grace also to consider that they are but strangers and pilgrims in this world, having here no dwelling-place, but seeking one to come, that they, remembering the short continuance of their life, may be content with that that is sufficient, and not join house to house, nor couple land to land, to the impoverishment of other, but so behave themselves in letting out their tenements, lands, and pastures, that after this life they may be received into everlasting dwelling-places, through Jesus Christ our Lord. Amen." Mr. Spooner explained that what he meant with regard to rich landowners was that he preferred them to small ones, because they had the means of making improvements in agriculture and of employing a deal of labour, whereas others had not to such a large extent, however well disposed.

The CHAIRMAN then proposed the following resolution, which was carried unanimously: "That it is the opinion of this Club that the employment of agricultural labour may be profitably increased by the enclosure and breaking up of waste lands, by breaking up and cultivating waste and wood lands enclosed, by drainage of the waste lands, and by tenants having the right to destroy ground game without the control of their landlords."

The following was adopted as a rider to the foregoing resolution, on the motion of Mr. SPOONER, seconded by Mr. THOMAS WARNER: "That an additional and desirable means of employing surplus labour during the winter months may be afforded by the setting aside of some public work, such as the levelling of hills and the improvement of roads, the funds for the same being raised by public subscription."

A vote of thanks was passed to Mr. Warner.

THE DORCHESTER FARMERS' CLUB.

At the January meeting the subject for consideration was "The Present Tendency of Legislation in regard to the Repairs of the Highways in England," standing in the name of Mr. G. J. Andrews, the Secretary of the Club.

Mr. J. G. HOMER, the President, before calling upon Mr. Andrews to give his lecture, directed attention to a circular on behalf of the "French Peasant Farmers' Seed Fund," expressing his opinion that the appeal would be responded to individually, rather than collectively, by such bodies as Farmers' Clubs. Any member, he observed, charitable enough

to contribute to the fund, could send the amount direct to the secretaries in London, whose names and addresses appeared on the circular.

Mr. G. J. ANDREWS said: In order to understand the matter in its various bearings it will, I think, be desirable—first, to trace the origin of highways in England; secondly, to ascertain the laws or customs which provided for their making or expenses of repairing; and, thirdly, the property and persons which were liable to those expenses. Each day's experience shows that where a number of people locate themselves in a

particular spot there must of necessity be a principal road or highway to it. Before the Romans landed in this country (which they did at Deal, August 27th, A.C. 55) we do not find any mention of roads or highways in England. But Pearson, in giving an account of the Roman occupation, states that the roads were the first appliance in the mechanism of the Roman Government. In Britain, a distant and for some time a poor province, they were not constructed with the same massive solidity as the Via Appia, or the well-known road into ancient Rome, and it was only near large towns that they rested on stones or a thick bed of concrete. Generally the materials which came first to hand were taken, but in parts where gravel and stones were scarce the roads were made somewhat broader and higher at the top to secure them against the effects of weather. Intended primarily for war, they went as far as the country allowed with unswerving directness of purpose from one point to another, and rather commanded than followed the track of commerce. Made and kept in order by forced labour, they climbed hills which it would have been simpler to skirt, and travelled over morasses on piles. They were rather causeways than roads as we make them, except for railways, and their transverse lines of communication were often drained by fosses or ditches on each side. Their breadth varied from eight to 24 feet in the north, and sometimes rose to 60 feet in the great highways in the south—so says Hume on the Roman Road from Allchester to Dorchester (page 5). In the second century the Roman legions were quartered at York, Chester, and Carleon. The chief danger at that time was from the restless Caledonians and the untameable Silures; accordingly two great roads connected London with the lines of Hadrian, one going westward to Chester, swerving east to York, the northern Prefect's quarters, and then westward to Bowness. This is the famous Watling-street, which was one of the King's roads in the Anglo-Saxon times. A second road, afterwards Ermine-street, went north from London through Bedfordshire to York. A third passed through Colchester, Cambridgeshire, and Lincoln, turned off to York, and then eastward to the Wall. Akemen-street, whose barbarous name commemorates the Bath Waters, connected that city, through Speen and Wallingford, with London. The line from Chester to Carleon, important as a military frontier, and leading through a mining district, was fringed with Roman towns, while the Foss and Rykneld ways connected Lincoln and York with Bath and with the estuary of the Severn. By the Roman law, everyone, without distinction of degree or person, was subjected to contribute to the repairs of the roads and bridges. The roads thus made by the Romans would appear to have been adopted by the Saxons on their occupying Great Britain, for Bacon says that "anciently there were but four highways in England which were free and common to all the King's subjects;" and a note remarks that the "Trinoda Necessitas"—which was a threefold necessary tax to which all landowners were liable in Saxon times for repairing of bridges and roads and maintaining castles and garrisons for defence, &c.—lay on all lands in England, and that those four highways, the work of the Romans, were Watlingstreet, Ikenildstreet, Fosse, and Erminestreet, of which two, say the laws of Edward the Confessor (ch. 12), extend the length of the kingdom, and two the breadth, and that they were put by those laws within the King's Peace, a privilege which was conferred upon them by the 30th chapter of the Conqueror's laws. Having traced the origin of highways in England, let us now see how many kinds of such ways exist at this day. My Lord Coke says there are three—first, a footway: then a pack and prime way, which is both a horse and footway; and thirdly, a cartway, which contains the other two as well as a cartway, and that any of such ways which are common to all the King's subjects, whether it leads directly to a market town, or only from town to town, may properly be called a highway, and that any such cartway may be called the King's highway. The Roman law, compulsory on all as we have seen, appears to have been succeeded by the "Trinoda Necessitas," or threefold necessary tax of the Saxons. The first statute I find, subsequent to William the Conqueror, on the subject of the repairs of highways, is one in 1285 (Edw. I., 13 cap. 5) by which it is commanded that highways leading from one market town to another shall be enlarged, so that there be neither dyke, tree, nor bush, whereby a man may lurk to do hurt, within 200 ft. of the one side and 200 ft. of the other side of the way; but

the statute was not to extend to cutting down ashes or other great trees, which were to be cleared underneath, and the lord that would not abate the dyke, underwood, or bushes was to be answerable for two robberies committed therein, and if murder was done that lord was to pay a fine at the King's pleasure. If the lord could not fell the underwoods the country was to aid him therein. The general laws of highways seem not to have kept pace with the requirements of the times, for a little more than two centuries and a-half afterwards—1555, 2nd and 3rd Phil. and Mary, chap. 8—a statute was passed for mending highways, the preamble of that statute being, "For amending of highways, being now both very noisome and tedious to travel in, and dangerous to all passengers and carriages." By this statute the constables and churchwardens of every parish were in Easter week to choose two honest persons of the parish to be surveyors and orderers for one year of the works for amendment of the highways, in their parish, leading to any market town; and four days were appointed for the amendment of the highways in which ever person occupying every ploughland in tillage or pasture, and every other person keeping there a draught or plough, and every other householder and every cottager and labourer of the parish able to labour, and being no hired servant by the year, should do such work on the highways on the said four days, or pay such penalties as are therein mentioned. (I may state here that a ploughland in respect of repairing the highways was land of the value of £50 a-year.) Until this Act was passed it did not appear incumbent on any particular officer or person to call the parish together, and set them upon this work; and it was for this reason, says Sir W. Blackstone, in his "Commentaries on the Laws of England," that this statute was passed appointing surveyors. In a footnote Mr. Dalton tells us this office exactly answers that of "Curatores Viarum" of the Romans, or the persons whose duty it was to keep the roads in repair; but it would seem that theirs was an office of rather more dignity and authority than ours, not only from comparing the method of making and of mending the Roman ways with those of country parishes, but also because one "Thermus," who was the curator of the Flaminian way, was candidate for the consulship with Julius Caesar. This statute of Phil. and Mary, 1555, appears to have inaugurated what was termed "statute duty," and was for seven years only. In 1562, the fifth year of the reign of Queen Elizabeth, an Act (chap. 13) was passed for continuing the Act of Phil. and Mary for 20 years from that period. This Act enabled the surveyors to take materials from any man's grounds, without consent, for mending the highways, and to turn any of the water courses, of which the Act states the highways were then so full as to make the highways very deep and dangerous, into any ditch, or the soil of any person adjoining the highways. It also extended the number of days for doing that labour from four to six days. Previous to the passing of this Act the surveyors did not possess those powers to take materials for the repair of the highways or to turn the water-courses. Doubts arose upon the construction of Acts of Parliament in those days, and defects were discovered in them then as well as now. This led in 1576 to the passing of the Act of 18 Elizabeth, by which it was ordained "that any person, except those dwelling in the city of London, that shall be assessed to the payment of any subsidy to her Majesty to £5 in goods, or 40s. in lands or above, and being none of the parties chargeable to the amendment of highways by any former law, but as a cottager, shall find two able men yearly to labour in the highways"—the Act of Philip and Mary requiring every householder, cottager, and labourer of the parish to provide one sufficient labourer only. Before proceeding further let us rightly understand the meaning of being assessed to the payment of any subsidy to her Majesty to £5 in goods. By ancient writers we are told that a subsidy signifies an aid tax or tribute granted to the King for the urgent occasions of the kingdom, to be levied on every subject of ability according to the value of his lands or goods. This statute of 18 Elizabeth is the first to recognise the equity of requiring owners of personal property, as such, to contribute towards the repairs of highways as well as owners of land and their tenants. I now pass on to the year 1670 (22nd Charles II. ch. 12), by which it was enacted that in such places where there is no use of carts and teams for the amendment of the highways, but the practice is to carry material on the backs of horses or by any other kind of carriages, that in all such places the inhabitants using such

horses or other carriages shall send able persons to work with such horses or carriages, in like manner as in any former statute, for repairing of highways is appointed for carts and teams. And by section 10 of the same statute it is enacted that where the Justices of the Peace, at their general quarter sessions, shall be satisfied that any of the highways in any township, parish, or hamlet would not be sufficiently repaired without the help of this present act, assessments upon all and every inhabitants, owners, and occupiers of lands and houses, or any personal estate usually rateable to the poor, shall be made, levied, and collected in such manner as the justices shall direct, provided that no such assessment to be made in any one year shall exceed 6d. in the £ on the yearly value of the lands and houses, or the rate of 6d. in £20 on personal estate. I now come to the year 1691, when an act was passed in 3rd and 4th of William and Mary (ch. 12), and that statute will show us the then mind of the legislature on this subject. The preamble runs thus—"Whereas the free and easy intercourse and means of conveying and carrying goods and merchandises from one market town to another contributes very much to the advancement of trade, increase of wealth, and raising the value of lands as well as to the ease and convenience of the subject in general, for which ends therefore divers good and necessary laws have been heretofore made for the enlarging, repairing, and mending the highways and roads of this kingdom. Notwithstanding which laws the same are not in many parts sufficiently amended or repaired, but remained almost impassable, all which is occasioned not only by reason of some ambiguities in the said laws, but by want of a sufficient provision to compel the execution of the same." By that statute the Surveyor of the Highways was to give notice to the justices at their special sessions of the amount expended in the repairing of his highways, and the justices were to cause an equal rate to be made for reimbursing the surveyor upon all the inhabitants of such parish, according to the rules prescribed in an Act of the 40th year of the late Queen Elizabeth, intituled an Act for the better relief of the poor of this kingdom, and the assessment was not to exceed a rate of 6d. in £1 on the yearly value of the lands or houses, or 6d. in £20 on personal estate. In 1697, A.D., the 8th and 9th William III., chap. 16, gave justices in quarter sessions power to widen the roads, not to exceed eight yards, and to take lands requisite for the same; the price to be paid to the owner not to exceed 20 year's purchase, to be assessed by a jury, and assessments not to exceed the amount before stated were to be levied on the inhabitants for purchasing the land. About 70 years afterwards—namely, in 1766, the 7th George III., chap. 42, was passed for the purpose of explaining and amending, and reducing into one Act of Parliament the several statutes then in being for the amendment and preservation of the public highways of the kingdom. By that Act persons liable to perform statute duty were permitted to compound for it; should, however, the statute duty actually performed and the money paid for composition not have sufficed to pay the expense of the highways, the justices of the peace at quarter sessions, upon the application of the surveyor, would order a rate to be made upon the occupiers of lands, tenements, and hereditaments, within the parish, to raise the amount required, the amount of rate being limited to 6d. in the £ on the yearly value of the lands, &c. By this Act it will be observed that personal property, after having contributed to the expenses of highways for about two centuries, was set free, and the burden altogether imposed on land. In the short space of seven years (1773), another Act of Parliament—the 13th George III., chap. 78—was passed for the purpose of explaining, amending, and reducing into one Act of Parliament the statutes then in being for the amendment and preservation of the public highways in England, which contains similar powers to those mentioned in the Act of 1766 for raising any deficiency occurring in the expense of maintaining the highways by statute-duty, but the power of assessing was raised from 6d. to 9d. in the £ by the year. The British Parliament rested from its labours on the subject of highway legislation for about 63 years, and then in the year 1836 came the Act of 5 and 6 William IV., chap. 50, which was to consolidate and amend the laws relating to highways in England. It would be foreign to my purpose to discuss the provisions of this Act, numbering 120 clauses; but it gave permissive power to parishes to form themselves into a highway district, and to nominate a district surveyor, and in large

parishes of above 5,000 the vestry had the power to form a highway board. Statute duty was virtually abolished by this statute as the only mode it gave for raising money for the repairs of the highways was by a rate to be made by the surveyor upon all property then liable to be rated to the relief of the poor, and to be allowed by justices in the same manner as the poor rate. The amount was not to exceed at any one time or rate 10d. in the £, or 2s. 6d. in the £ in any one year. It contained also a provision that with the consent of four-fifths of the inhabitants of any parish assembled in vestry and contributing to the highway rate, the rate might be increased to such a sum as the assembled inhabitants should think proper. Having now briefly, but I fear very imperfectly, brought before you the origin of highways in England, the laws and customs which provide for their making or expenses of repairing, and the property of persons liable to those expenses, I come now, after the lapse of a quarter of a century, to the year 1862, when the highway reformers succeeded in obtaining the Highway Act (25 and 26 Vic.), and they may have obtained their ideas for the formation of the districts and boards which have subsequently been formed from the Act of 1835. With the machinery and working of this Act and of the Highway Act of 1864 passed to amend the Highway Act of 1862, you are many of you, as members of highway boards, well acquainted. The working of the machinery of the Acts of 1862 and 1864 has, without doubt, thrown upon parishes expenses to which they were not previously liable, and whether they and the public generally will derive benefits commensurate with the expense is a problem which time only can solve. The question of whether or not it be just and fair that the vast multitude of persons engaged in commerce and trade should go free from highway rates, when they not only use and travel on the highways equally with, but with far heavier loads, than the occupiers of lands, must, in my opinion, be answered in the negative. Beyond contradiction they derive as much or more benefit from good roads than the occupiers of lands who pay for the repairs. The country and the Parliament thought so in the year 1691, or the statement in the preamble of the Act 3 and 4 William and Mary, that the free and easy intercourse and means of conveying and carrying goods and merchandise from one market town to another contributes very much to the advancement of trade, increase of wealth, and raising the value of lands, as well as to the ease and convenience of the subject in general, would not have been made. Is not that statement as true at the present day as it was then? Are not good and commodious highways as requisite for the advancement of the trade of this country, the increase of its wealth, the raising the value of its lands, and the ease and convenience of its inhabitants generally, as a good and efficient army and navy are for its safety, and as a good, talented, and honest Government is for its welfare and honour among nations? If so, why should not all contribute in due proportion, and according to their ability towards the maintenance of its highways? The present Legislature appears to think that not only should the occupiers of land exclusively bear the expense of maintaining all the present highways not being turnpikes, but that they should be further burdened with the repairs of all turnpike roads, when and as they shall cease to be such. For by an Act passed in August last (the Annual Turnpikes' Acts Continuance Act) the cost of maintaining so much of any turnpike road as passes through any highway district constituted under the Highway Acts of 1862 and 1864, which has ceased, or shall at any time thereafter cease to be a turnpike shall, after 31st December, 1870, be a charge on the common fund of such highway district. Gentlemen, I have now endeavoured, to the best of my ability, to show you the present tendency of legislation in regard to the repairs of the highways in England. But when I look at the enormously-increased and increasing wealth, and numbers of those engaged in commerce and trade, as well as of those who draw their wealth from other sources than occupying land, and the consequently increased use by them of our highways, and contrast them with the wealth and population of this country in 1691, I can form unhesitatingly but one opinion—that opinion is, that the preamble of the statute of William and Mary is specially applicable to the present day, and that it would be but scant justice to the occupiers of lands that personal property, which was then, although in a very mild degree, rateable to the repairs of the highways, should now be made to contribute with the occupiers of lands its fair quota towards

the repairs of the highways in England. I fear I have tired your patience, and if I have, I ought, and I do thank you the more for the attention which you have shown me, which is only another instance of the many kindnesses I have received at your hands.

Mr. R. GENGE said: It seemed that as civilisation increased so did the number of good roads increase. A good road might be considered as a mark of civilization. The Romans, the most civilised of all the nations, were excellent road makers. The mulcting of a certain class of the community—occupiers of land—for the public good seemed also to be connected with the march of civilisation. It was high time that these things should be taken notice of, that, as Mr. Andrews had observed, personal as well as real property should contribute towards the expenses of the State. The working of the Act of 1862 had certainly been tested long enough to afford the opportunity of forming a good opinion as to whether it was beneficial. In many parts of the country the roads had, he thought, certainly improved, but whether in proportion to the cost was another question. If previous Acts had been well carried out, that of 1862 would not, he thought, have been required. He believed it was formerly in the power of the justices to take the necessary steps for putting roads in proper repair, and they could do no more now. There was at present a Board, in connection with which was a staff of efficient officers, and of course there were accompanying expenses. It was a great comfort, all must admit, to have good roads in going about the country; everybody must appreciate them, but then there was the serious question of expense which would lead to the great question of rating. It would be unwise, perhaps, to go into the latter at present. He should only be too happy to see all rates paid by the owners instead of the occupiers of property; if landlords were sufficiently interested in taking up matters of rating they would come before the public more effectually than when brought forward by the occupiers, who now felt the pinch. If the rates were all paid by the owners the occupiers would of course have to pay an equivalent in rent; they would know what they had to pay. Under that system the rates would be paid by those persons most interested in keeping them down. Certainly he considered a great injustice would be suffered if the maintenance of the turnpikes in this country was thrown upon the parishes, which appeared to be the object of recent legislation that had taken place. Mr. Genge considered it would be an injustice for persons who did not use roads to be compelled to pay for those who sent over the roads heavy loads of flour and other articles.

Mr. DAMEN said if Mr. Hugessen's bill were carried out—and no doubt it would be, for it was already partly passed—the additional expenses to be met would be somewhat alarming. He (Mr. Damen) saw that there were in this country 17,000 miles of turnpike roads to be maintained, the debt on those roads being near £3,000,000. In this county alone there were 433 miles of turnpike roads, the debt amounting to £94,000. Now let them just fancy that—the parishes being saddled with the keeping in repair of 433 miles of turnpike roads, to say nothing of the debt of £94,000! If the tolls were abolished this sum would have to be paid; no doubt that was the intention of the Legislature. The payment of this, reckoned at 3 per cent., would amount, perhaps, to £3,000 a-year, extending over 30 years. This he looked upon as one of the most monstrous things that could possibly be. He was in favour of persons being called upon to pay their share of the burden according to their ability, but to do more than that would, he held, be unfair. To charge all classes with the expenses according to their ability, would be as easy as possible, but to throw these expenses on a few for the benefit of the general public would be unfair.

Mr. T. A. HOMER considered that the burden of maintaining the roads should fall upon the community at large; it would be hard for the occupiers of land to be burdened exclusively. Reference had been made to the cottager earning his 8s. or 9s. weekly having to pay rates while personal pro-

perty—stock-in-trade for instance—was exempt; that he took to be a hardship. It seemed to him that they should do all they could in order that every one should bear his fair share of the burden.

Dr. ALDRIDGE said it struck him that the maintenance of the highways should fall upon each county, by means of a highway rate levied on all available property. Persons, he thought, should be called upon to pay such rate the same as they were now called upon to pay upon their income and property for other purposes. Every person in the country who derived an income from trade or landed property should pay a fair proportion. Good roads were absolutely necessary for the success of commerce and other interests, and therefore everyone, according to his position, according to the property which he held, should be made to contribute towards their maintenance. With regard to turnpike trusts he thought the sooner they were done away with the better; they were a great imposition. The expense of collecting the tolls was something enormous, and then again there was a sad want of economy in making the roads. Between Dorchester and Frampton, passing through Charminster, there were no less than three turnpikes. If the road had been managed properly it would long ago have been made free. The sooner tolls were abolished the better. The maintenance of highways and turnpikes should fall in the shape of a county-rate upon every one in the county possessed of property. As the subject was now on the *tapis*, as it would shortly be again brought before the House of Commons, it was, as he conceived, the positive duty of every Farmers' Club to petition Parliament to the effect that all properties should pay a fair share towards the maintenance of highways, at the same time opposing any such bill as that which had been spoken of as being introduced into the House.

Mr. A. POPE suggested the imposition of a tax upon every vehicle and every horse, raising thereby, if possible, a sufficient sum to maintain the highways. Then the burden would, he thought, fall on the right shoulders—on the persons who used the highways—and the noxious and inconvenient system of tolls would, to a certain extent, be abolished. This suggestion, he added, had never yet been brought before the House of Commons, and he did not know that it was likely to be (laughter).

The PRESIDENT said the first thing he would speak of was the present state of the roads. They could very plainly see that the Turnpike Trustees were, at the present moment, neglecting the turnpikes throughout the county. Certainly the Dorchester and Martinstown road was one of the worst roads he had ever in his life. The parish roads were quite in order; but it was otherwise with the turnpike roads. There prevailed a general impression that the roads would next year be thrown out of the hands of the Turnpike Trustees. The expenses attending their own roads had, they all knew, been enormous—they not increased double, but treble and treble. He felt that the increasing expenses must eventually be borne by the landlords, that the tenants could never pay them. A good deal of money was, he held, spent in an extremely extravagant manner. Taking up an old way-book of his parish, he found that from 1859 to 1863 the sum spent on the roads was £21 11s. 6d., while during the past four years, from 1867 to 1871 the sum of £226 would have been paid (Sensation). Thus the expense was now tenfold. Mr. Homer, in contending that money had been unnecessarily spent on the roads, instanced a case in which £40 or £50 had been voted for a road (that leading from Ashton to Monkton) while scarcely ten vehicles had passed over it during the past 2 or 3 years. The road he said ran through one piece of land. Last year or the year before thistles as tall as himself (Mr. Homer) and turnips as big as a decanter grew there. That was the way their money was spent. He also gave an instance of a road leading into a mud hole.

Mr. ANDREWS having replied, a vote of thanks passed to him, and the proceedings ended.

THE BREEDING AND MANAGEMENT OF SHEEP.

At the monthly meeting of the Breconshire Chamber of Agriculture, COLONEL BRIDGWATER, the Chairman, said he wished to inform the Chamber that at the last meeting of the Court of Quarter Sessions it was decided by the magistrates present that a committee should be formed, consisting of Penry Williams, Esq., the county and borough members, Sir Joseph Bailey, Bart., and Colonel Bridgwater, to draw up a memorial to be presented to Parliament on the subject of local taxation. He was sure that announcement would be the more gratifying to the Chamber because the magistrates had not been solicited by them, but had taken the step of their own accord. He therefore thought it would be advisable that the Chamber should send up a similar memorial, not in the same words but to the same effect. That, in fact, was being done, or about to be done, by most of the Chambers of Agriculture throughout the country, and he thought it would be well for them to do the same. He also suggested that the Brecon and Trecastle Agricultural Society should adopt and present a similar memorial. Thus, by uniting together, the agricultural interest would make its voice to be heard, and in all probability would influence very materially any future legislation on the subject. It would be advisable, he thought, for the Chamber to take the same course as the Court of Quarter Sessions had done; namely, to draw up a petition, and send it to Parliament in the name of the Chamber, and for that it would perhaps be advisable to empower the council of the Chamber to draw up and send a petition in the name of the Chamber.

Mr. OVERTON said they had already had a long discussion on the subject. His individual opinion was, that the burdens on land had not increased in the same ratio with the increase in the value of land; in fact, in nothing like the same ratio. He did not think anything would be gained by adopting the memorial to be presented to Parliament. There had, indeed, already been an investigation on the subject, when it was proved that land was not rated in proportion to its increased value.

Mr. LLOYD proposed, "That the council of this Chamber be empowered by this general meeting of the Chamber to draw up a memorial to be presented to Parliament, on the subject of Local Taxation."

Col. BRIDGWATER seconded the proposition, which was assented to.

Mr. STRATTON, of Duffryn Farm, Newport, Monmouthshire, then read the following paper: I propose to speak only of ordinary sheep-farming, if I may so use the word—I mean sheep-farming for the ordinary market, or £ s. d. point of view. I know nothing about the fancy side of the question, trimming for exhibition, or any of that kind of thing. I have no particular predilection for the animals—I either like them or detest them as they are profitable or unprofitable. And here is a point which I think we too often omit to consider. A man has his usual stock; he keeps them on in the usual way; he changes them from one kind of keep to the other, as the course of the season comes round; he has his usual lot of tegs or what not to sell at the usual time; they go, and he has so much money more or less than the year before, as the case may be. Does he consider, and can he tell us when or on what keep they have been paying best, and where they have paid least, or even lost money? Now, I think, we should be richer men, or rather, I would say, less poor, for I am speaking to farmers, if we more frequently asked ourselves the question, Is our stock paying? and after calculating the costs and seeing where it pays, and where it loses, endeavour in future to cleave to the one and despise the other. Now, of all the different branches of farming, I think the management of sheep is the most difficult to understand. Somebody once said of war it is a series of blunders, and the one that makes fewest gets the best of it; so, I think, it may well be said of farming, especially of sheep-farming. We hear every spring the question, always the first question a brother-farmer asks you, what luck with the sheep or with the lambs? Depend upon it the answer to that question is a pretty good indication of the

management of the flock; for though I must admit that the best of managers do sometimes meet with bad luck, as it is called, I do believe that bad management is generally the parent of bad luck, and *vice versa*. At all events, I know that when I myself have had very bad luck, I could frequently remember a bit of bad generalship a month or two before. In sheep-farming I do believe that to make it profitable you must manage very well indeed, and sheep badly done are a most unprofitable stock. So I think you could not have chosen a subject more worthy of our consideration and discussion, and I think we shall find, after calculating all costs, that there are more unprofitable sheep kept in this kingdom than is generally imagined. I have heard clever farmers say that sheep are a necessary evil, that they pay nothing in themselves, but are only necessary for corn-growing. With this I for one cannot agree. I believe that sheep managed as they ought to be should not be kept in excessive numbers to interfere with corn-growing, which I have frequently seen done. Have you not often seen roots kept about too late in the spring so as to ruin a barley crop? And, remember, it takes the profit of a good many sheep to make up the difference between the value of 20 acres of bad barley and an equal quantity of good. I now propose to say a few words in detail about the management of a breeding flock, with my humble notions as to its proper management. Of course the first question to be decided in commencing sheep-farming is the sort of sheep you intend to keep, and this is a question dependent upon such a variety of circumstances that it would be preposterous to offer an opinion; but, as a rule, I think, to begin with, it is wise to do as your neighbours do, only improve upon them (I mean the sheep of course) as much as possible; it would be perfect madness to put heavy sheep on your mountains, though, possibly, they might with advantage be made a little heavier than they now are; but mountain farming is one thing which I cannot understand. I cannot understand what pay there can be to a Welsh wether, for instance, from one year old till six, when, I believe, he is generally worth from 25s. to 30s., the wool at 10d. or 1s. per lb. about makes up for losses; so it appears to me that he pays, with *luck* mind you, about 1s. a year for four or five years. This cannot be making money very rapidly. I verily believe your mountain farmers, for no doubt you are all sportsmen, keep these sheep to afford a good chase for your dogs; and here let me say that I believe the mischief caused by dogging is incalculable—it's the curse of Welsh sheep farming. No sheep can thrive if they are to be run to a stand still constantly. Why, in Wiltshire and every other sheep county I know of, the very first principle of sheep management is to be as quiet and gentle as possible, never disturb the sheep in the smallest degree, but hereabouts the dog does everything. A man sits in his house, tells the dog to go round the hill and bring the sheep home, that he may see if they have "gruba." Your dogs are wonderfully intelligent, and no doubt they save their owners many a long walk, but they certainly diminish the mutton of the country to a very considerable extent. Perhaps it improves the flavour, as couraing is said to do of the hare; and as we have nothing extra to pay for it, perhaps we had better say nothing about it. But let us return to our breeding flock; and here let me say that it should be a point of very deep consideration whether according to the peculiarities of this or that form, a breeding flock is the right thing to keep, or whether a dry flock would not be more profitable. Of course in this matter everything depends upon circumstances, but I think one rule may be laid down in reference to this matter, viz., do not keep a regular breeding flock unless you have sufficient rough keep, either mountain run, or other inferior keep to maintain your ewes from weaning time till near tuppings time, for if they are kept on costly food, the expenses of summing will very considerably diminish the profits. My own plan is to buy in full-mouthed ewes, generally in August, keep them always pretty well, sell as many fat lambs as I can, and graze out the ewes during the autumn. My reasons for buying in a fresh lot every year are, in the first place, that I have no

sheep walk where I can keep my ewes inexpensively; secondly, I like old ewes. They breed a larger number of lambs, and that better than young ewes. Now, having weaned the lambs, I think we all know that it is quite unnecessary to fatten our breeding ewes. It does them good to work for their living, only to mind they do not get too poor, and that they are well supplied with water during the hot weather. It is not until within a month of tugging that one need be at all anxious about the ewes. I think it is then of great importance to keep them well. They should be decidedly on the mend when the ram is turned out, for we all know how our breed of lambs varies as the ewes are doing well, or are poor and doing ill. Now comes a very interesting period, when the health of our subject should be carefully watched, for a little neglect will spoil the whole thing. Once let your ewes get below the mark do what you will, you can't get them up again. You will have puny, starved lambs, the ewe can't keep more than one, and often not that. You will have a short breed of lambs, and lose a number of ewes. In short, you will have *very bad luck*. Let us just try to calculate the difference between a flock done well and a similar lot done badly. Let there be 200 Down ewes. They shall be run in two lots of 100 each. And here I will describe my notions of how a flock of ewes should be kept. They shall cost 35s. a head, and be purchased in August. They both shall run stubbles, and be kept in a similar way, only that one lot shall have a tie of rape or mustard for a month previous to a *certain* time, so that one lot shall be in a good state, and the other a little below par at that particular time; then they run the seeds and pastures, or clean up behind the lambs; they are still upon much the same keep, but one lot is frequently changed from field to field, the other kept a bit too long in one place. The shepherd has the lambs to attend to in the morning, and keeps our devoted ewes too long in a bare fold, where they had finished up the bits left by the lambs six o'clock on the previous evening. They continue to run the pastures, when November comes with its usual rains; the one lot is immediately removed to the drier grounds, where a bite has been kept in anticipation of this period; the other lot remains a few days, perhaps weeks, too long on wet comfortable ground, the bit of grass there is dirty and loathsome from the constant wanderings of the dissatisfied ewes. December comes, but without frost; the good manager still keeps his flock on the dry ground, but either hauls them a few turnips or makes them walk to the field and fetch them themselves; the bad manager begins to think his ewes look deuced rough, is frightened, takes them away from the grass, and plunges into a piece of turnips, gives them as many turnips as they can gorge, and hay, which they don't care about, having plenty of turnips, keeps them between the hurdles often in mud up to their bellies. This goes on till January comes with its frosts, when our friend finds his roots decreasing apace, and the hay ricks diminished visibly; gets frightened again, curtails the turnips, and cuts straw with hay into chaff; the consequence is that the ewes are always looking for the turnips, rush at them when the time comes, take in a considerable amount of wind, and consequently feel uncomfortable. Then may be expected a pretty good crop of dead lambs. So the game goes on till lambing time, when our friend finds himself in a very unsatisfactory state as regards his 100 Down ewes; in all probability he has lost four or five. He has few twins, and even the singles have not sufficient milk. He finds when weaning and shearing time comes that he has lost ten ewes, and has only eighty lambs, and those are a bad lot. Now, what does our good manager do? We left him in December with his stock in a very healthy state. In January, or as soon as they require it, he gives a little cake, and perhaps a bit of chaff, or a picking of nice oat, barley, bean, or pea-straw, and so they are continued to be kept until lambing time, always in comfort, always in health. Observe, I have not mentioned hay as part of their diet. I very seldom use hay myself for sheep, and I am quite satisfied that it is quite unnecessary; and at anything like average market price, it is one of the dearest articles you can consume, and not to be compared to cake or corn as an economical feeding stuff. I have known a flock of ewes eat more hay in a season than they themselves were worth. Can that be right? and what is the reason? Why, some absurd restriction about selling hay, probably. Fancy being compelled to consume hay worth £7 per ton, when

you can use cake so much more economically, and will any one say that cake feeding is not better for the land? Moreover, I object to giving ewes an excessive quantity of roots, before lambing. I believe a large amount of ill-luck is to be accounted for in this way. Now, the owner of the flock I am now describing will find himself, in all probability, at weaning time, with about 98 ewes and 130 lambs. The ewes will keep the lambs well and give them a good start, which is everything with a lamb. Once get a young lamb "dry" in its skin, as we call it—I mean pinched—and with its back up—and you may move him if you can; he is injured for life. The parallel which I have been drawing in a very rough way, I believe to be by no means an unusual one in real life, and I leave you to draw your own inference of the difference between profit and loss in these two cases. Why, one lot would be worth almost double as much as the other, and yet probably have cost no more to keep. No wonder that some men like sheep while others hate them, that some are "lucky," others unlucky. I believe the great principle of sheep farming is to *keep them moving*! I mean increasing in weight. I am not recommending "dogging," mind. If a sheep once sustains a check, it takes probably a month to start him again, and all the food he eats during that period is simply wasted. What does M'Combie say of cattle? "If you want them to pay, they should never lose their calf-flesh, depend upon it." It is quite equally true of sheep, they should never lose their lamb-flesh. I expect we are all pretty well agreed that in sheep-business nothing pays better than selling fat lambs, and no doubt, as a rule, it is quite true; but if it were possible to keep them on for another six months, always doing as well as when with their dams, and with good keeping, it is quite possible, I believe, the latter part of their lives would be as profitable as their beginning. Take for instance the prize lots of lambs at Winchester Fair, in October last. The 300 made over £3 a head, and you may reckon up the cost of keeping them as you like; you can come to only one conclusion, namely, that they paid right well. Now, you may depend upon it, they were kept "doing" the whole time. I will here say that the dams of the first prize lot have tasted no hay for two or three years. And the principal food of the lambs was vetches, sainfoin, and cabbage. I will not pursue the daily life of a lamb from its birth to its death, for that would be asking too much endurance from you. I will simply say that I believe it is very essential to give young lambs a succession of *fresh* keep if hurdling be the system adopted; let them at least have one fresh piece every day; and if the system of grazing the whole field be adopted, on no account let the keep get too big before stocking, and when stocked don't keep them there too long, remembering that for every day they remain there after your keep is stale they will take two days of good keep to make up what they have lost. Rely upon it, for sheep to do well upon seeds or grass, they should be pastured in moderate numbers with other stock, and frequently shifted from one field to another, always having the opportunity of obtaining good water. There's an old saying, "If you want more milk, sell a cow." The same may be applied to sheep, "Do not over-stock." A few sheep well done will pay a lot more than a large number done badly. Over stock with sheep and you spoil your sheep and spoil your land. Here let me say that I think wherever possible there's nothing like keeping sheep between hurdles. They are not only spared a lot of injurious exercise—I speak of grazing sheep—but you get the full benefit of the manure, which when sheep are allowed to run over the field, is, to a great extent, wasted under hedges and trees, or where it is not required. I am of opinion that it is unwise, as a rule, to keep young sheep on pasture too late in the autumn; or rather, I should say, get them on to roots as soon as you can. I believe a ton of swedes in October will produce as much mutton as two tons after Christmas, unless very carefully secured, and even then they are not nearly so good, or, at all events, they do not make mutton so fast; but that perhaps may be on account of the difference in the state of the land and the atmosphere; but whatever the cause, the result is the same. I like to get on to swedes or mangolds by the 1st October. My own plan is to give them as many roots as they will eat. I speak of fattening sheep with about a pound of cake or corn per day. No hay! I find the sheep, as a rule, do very well and pay me a fair price for my roots. I find 1 lb. of cake per day and

20 lbs. of roots to be about the average quantity a fair sized "teg" will consume, and reckoning in this way, I have been always able to calculate the time my roots would last me, and this is sometimes useful to know. There is a prevailing notion that mangolds are unfit to feed, with sheep on the land in autumn. This is, I venture to say, a great mistake. I would quite as soon have mangolds as swedes in October, November, or December; and as they are a much more certain crop, I shall go in for a very large proportion of mangolds. I have fattened a lot of sheep on mangolds this last autumn, and never had sheep do better. In conclusion let me say that to be successful in the breeding and management of sheep—I mean successful in a pecuniary way—like all other branches of business, it must be thoroughly understood and well carried out. We must think over our blunders and profit by them, and not go and commit the same blunders again. We must look our mistakes fairly in the face, and not slur over them, and call it all ill luck. I am here reminded of two very big blunders of my own only last year. I know it is generally thought that any fool can be a farmer—and so he can in name; but I am sure you will agree with me that any fool can't make money at farming. I believe a prevailing error among farmers is a fear of expense. We too often spoil the ship for the sake of a half-penny worth of tar. The most profitable lot of sheep I ever remember were kept the most expensively: after paying for their corn, which they had *ad libitum*, they paid 30s. a ton for their roots.

The CHAIRMAN knew the hill sheep made very good mutton, and he should be pleased to hear some of them tell Mr. Stratton that they paid also.

Mr. DE WINTON said that in some humble way he had followed the plan advocated in the paper, though as yet he could not say that it had paid him, for the reason that he thought he had had what was termed bad luck with his sheep. Still he was not deterred, as he believed the principle advocated was the right one.

Mr. A. SMITH explained that it was his custom to give his sheep a little hay with their turnips, because turnips containing ninety per cent. of water were too poor for sheep at that time, and if fed on that root alone the consequence would almost certainly be a poor lambing season. He therefore gave his sheep a little hay, and believed it to be beneficial to them.

Mr. STRATTON said he also gave his sheep hay and cake as well as turnips at the time alluded to by Mr. Smith, and believed with him that that treatment was beneficial.

Mr. SMITH quite endorsed all Mr. Stratton had advanced on the evil of driving sheep with a dog. Such a practice was a very bad one, because after a run in that way the sheep became overheated; they would then lie down, and the probabilities were that it would prove very injurious to them.

The CHAIRMAN said that he thought Mr. Stratton's remarks were hardly fair on Welsh sheep farming. He appeared to condemn the practice of keeping sheep for six or seven years;

but it might be that they made better mutton by keeping them that time, and if so, the question simply turned upon a matter of paying. He did not think the same rule could be applied to Welsh sheep as was followed with English sheep. In fact, the real point was simply whether the Welsh farmer could do as well by selling his sheep at a year or two old as by keeping them longer. They must remember that Welsh sheep were quite different from English sheep in that they wandered over large tracts of common land for a greater part of the year, and their keep was therefore much less expensive than English sheep. The mountain sheep, too, were much more hardy than the lowland sheep, and considering this and other circumstances, it seemed to him that they required a very different kind of treatment.

Mr. JONES said he was very much impressed with some of Mr. Stratton's remarks respecting hill sheep, and he could not but say that a good deal he had said was quite true, and could not be controverted. Every shepherd who had a great quantity of sheep under his care, roaming over hundreds of acres of hill land, knew that a certain number of those sheep were what are termed leaders, that is, they were kept for a longer period, because they knew the runs or the boundary so well that they prevented the rest of the flock from straying.

Mr. STRATTON: But do they pay?

Mr. JONES: Very well.

Mr. D. SMITH pointed out that farmers whose farms adjoined mountain commons had the privilege of turning out their sheep on these commons for the greater part of the year, and in consequence, their feeding was much less expensive than the feeding of lowland sheep. It was the practice of these farmers to buy sheep a year old and then turn them on the commons for two or three years, at the end of which time they would realise 7d. per lb. in the market, and thereby give a clear profit because they had cost but little in keep.

Mr. OVERTON said that the Welsh farmers, on farms of over one hundred acres, were gradually reducing their stock of Welsh sheep. Indeed, the only reason that could be alleged for their continuation was the immense tracts of common lands which were only used for grazing purposes. These commons unfortunately were now open, but he considered it would be far better if they were enclosed. He believed that unenclosed commons were a great injury and a great curse to the country. They produced endless disputes and quarrels among the people who lived on and adjoining them, as was seen in the continual charges of assault heard before the magistrates arising therefrom. But he thought the day was not far distant when these commons would be enclosed, and then the hill farmers would probably keep a superior class of sheep. There was another reason for continuing this class of sheep, namely, that the land in many districts was too poor and too cold to support a superior breed.

Votes of thanks were accorded Mr. Stratton and the Chairman.

THE HEXHAM FARMERS' CLUB.

At the annual meeting, Mr. Joseph Lee, Dilston, in the chair, the officers of the Club were re-elected for the ensuing year, and the other business was of a formal character. The annual dinner was held at one o'clock, when about ninety gentlemen sat down, Mr. C. G. Grey, President of the Club, in the chair.

The SECRETARY (Mr. W. Trotter) read the annual report as follows: In presenting the twenty-fifth annual report, your committee have pleasure in observing that the Club still continues its prosperous career. The number of members increases, there now being 228 against 215 at our last annual meeting. The committee beg to express their thanks to the gentlemen who have read papers during the year, viz., to Mr. Wallis for his paper On Sewage, to Mr. Hugh Wilson for his paper On the Condition of the Agricultural Labourer, to Mr. W. F. Catchside for his papers On Oilcakes and On Lime, to Mr. H. B. Goddard On the Sterility of Soils, and to Mr. John Hope, jun., for his paper On the Commercial Aspect of Agriculture. The committee wish most particularly to draw your attention to the subjects on the card for discussion; the first of which, by Professor Wrightson, will not be read on the second Tuesday in Feb-

ruary, but on the first Tuesday—the 7th of February. Your committee, in compliance with a requisition from some of the members called a special meeting, which was held on the 15th of March, to consider the Game Law Bills then before the House of Commons. The meeting was numerously attended, and it was resolved to petition in favour of the total repeal of the Game Laws. The petition was forwarded to Mr. Beaumont, by whom it was presented to the House. Your committee beg to express their obligations to Mr. Beaumont for having kindly sent to the Club various Parliamentary returns and reports connected with agriculture. The committee have submitted to your chemist various samples of cakes and manures for analysis, and have pleasure in stating that the results are satisfactory; but they beg to add that the cakes which they selected are sold as "pure." Those sold as "genuine" and "common" have not been analysed. Your committee feeling that these analyses have been of benefit to the district desire your permission to continue them. The Club was kindly invited to witness the working of various steam cultivators on Mr. Lee's farm, Stocksfield Hall, in April; but it may be observed that the position of the field in which the trial took place and

the quality of the soil are well adapted for 'steam cultivation.

The CHAIRMAN moved the adoption of the report, which was carried.

The SECRETARY proposed a number of new members, who were elected.

Mr. WM. COOK then sold the agricultural papers taken in by the Club, disposing of the *Mark Lane Express* to Mr. M. Stephenson, jun., Fourstones, for 4d. per week, and the *North British Agriculturist* to Mr. J. J. Harle, West Mill Hills, for 2½d. per week.

The Secretary laid before the members a letter asking aid to a fund for providing money or seed to the tenant farmers in the north of France.

Mr. DODS moved that the committee be requested to undertake the collection of funds and seeds throughout the district, and that they select gentlemen in each parish to aid them.

Mr. JOS. LEE seconded the proposition.

The CHAIRMAN said it was an exceedingly laudable object, to benefit those who, from no fault of their own, had been brought to great loss. If peace should be concluded by the spring they would be able to sow their land.

The SECRETARY proposed that the Club take no action. If any nation, especially a rich country like France, chose to go to war, it was very fit that they protected themselves against all emergencies (hisses and slight applause).

There being no seconder to the amendment, the motion was carried.

Mr. DODS then read a paper on "Local Taxation" as follows: The subject of local taxation, on which I have undertaken to open the discussion, is one the growing importance of which is forcing itself upon the attention not only of those upon whom the burden of the local taxes falls, but also of public men of all shades of politics, and now, after many attempts at mending and patching, has again been taken up by the legislature with, let us hope, a determination by a comprehensive and just reform, to set the question at rest for at least one generation. The committee of last session will, I doubt not, be re-appointed as soon as Parliament meets, and as upon its final report it is most probable legislative measures regulating the raising and expenditure of some £16,000,000 will be based, I need not point out how important it is that the ratepayers and all who are interested in the question should make known their views in a calm, clear manner—not looking merely to their own interests, but endeavouring to ascertain what is best for all; and I trust that in this spirit I shall open the discussion, and that in this spirit it may be conducted. As the Act 43 Elizabeth, cap. 2, is that under authority of which a large portion of our local taxation is raised, and as it has the merit of being brief, I shall here quote it: "Be it enacted by the authority of this present Parliament that the church wardens of every parish, and four, three, or two substantial householders there, as shall be thought meet, having respect to the proportion and greatness of the same parish and parishes, be nominated yearly, in Easter week, or within one month after Easter, under hand and seal of two or more justices of the peace in the same county, whereof one to be of the quorum, dwelling in or near the same parish, or division where the same parish doth lie, shall be called overseers of the poor of the same parish; and they, or the greater part of them, shall take order from time to time, by and with the consent of two or more such justices of peace as is aforesaid, for setting to work the children of all such whose parents shall not, by the said churchwardens and overseers, or the greater part of them, be thought able to keep and maintain their children; and also for setting to work all such persons, married or unmarried, having no means to maintain them, and use no ordinary and daily trade of life to get their living by; and also to raise, weekly or otherwise (by taxation of every inhabitant, parson, vicar, and other, and of every occupier of lands, houses, tithes impropriate, appropriation of tithes, coal mines, or saleable underwood, in the said parish, in such competent sum and sums of money as they shall think fit), a convenient stock of flax, hemp, wool, thread, iron, and other ware and stuff, to set the poor on work; and also competent sums of money for and towards the necessary relief of the lame, impotent, old, blind, and such other among them being poor and not able to work; and also for the putting out of such children to be apprentices, to be gathered out of the same parish, according to the ability of the same parish, and to do and execute all other things, as

well for the disposing of the said stock as otherwise concerning the premises, as to them shall seem convenient." The duty of providing for the impotent poor was recognised so early as 1338, in the reign of Richard II. (a), but it was not till the suppression of the monasteries by Henry VIII., which dispersed over the kingdom the sturdy beggars hitherto supported by them, that the question forced itself on the attention of the Parliament. Acts providing for the collection of voluntary charity proved ineffectual, and at last the 43rd of Elizabeth was passed, which may be rewarded as the foundation of our poor-law system. By it the office of overseer was first called into existence. It will be seen, too, that it provides that the able-bodied poor shall be made to work, the impotent provided for, and poor children apprenticed and set to work, and also provides for raising the means of carrying out these provisions by a compulsory rate, "according to the ability of the *same parish*." The Act is very short compared with our Acts now-a-days, and seems very clear also, and yet how many different opinions have been expressed regarding it! and so many and conflicting have been the decisions of the superior courts upon it that its terms afford a fruitful source of litigation, even in our own days. Some hold, and Mr. Gardener, in his able essay on Local Taxation, goes the length of saying that no unprejudiced mind can doubt that personal property was intended by this act to be rated. If so, it is a very singular fact that no attempt to rate personalty was made from the days of Elizabeth till the reign of Anne. There is no doubt that since that time there have been many conflicting decisions; but latterly personalty, at least so far as to include stock-in-trade, was held to be rateable, but under so many restrictions and complications that to do so was next to impossible, and the legislature cut the knot by passing a short Act exempting personalty from rates. Your time, however, will not permit me to enter fully into that branch of the subject here. Those who wish to study the difficulties of rating personalty, I would refer to the exceedingly clear and able evidence of the late Sir George C. Lewis, before the Lords' Committee of 1850, on Parochial Assessment.

In treating this subject I shall consider

I.—The basis of assessment.

II.—The area of assessment.

III.—The parties from whom the rates should be levied.

IV.—The parties framing the assessments, and making, allowing, and collecting the rates.

V.—The parties administering the rates.

I. THE BASIS OF ASSESSMENT.—1. The present basis and its inequalities. Hitherto the rates have been charged only on real property, but every description of real property is not chargeable. With the exception of coal, all mines and woodlands (with some slight exceptions) are exempted, and also all quarries and claybeds which are wrought by shafts, and not "to the day." Thus the fire clay, so frequently found with coal, and so valuable an adjunct to the mine, is not rateable, while the coal going up the same shaft is so. Again, railways, water-works, and other descriptions of property which, within the last few years, have so largely increased in value have, through the ignorance or indolence of the overseers, either escaped rating altogether or been rated at a mere nominal sum. This may be seen by reference to the Board of Trade returns, from which it will be found that the fair rateable value of the railways in England and Wales in 1867 amounted to something like £12,000,000, on which they paid only £650,000 of rates, or about 1s. 1d. in the pound; whereas, according to Mr. Dudley Baxter (b), the average rate is 3s. in the pound on the rateable value of England and Wales. These inequalities are further increased by there being no central authority by which the assessment of the various unions may be made uniform one with another, so that the county and police rates are levied on an unequal basis. Again, the cost of the prosecution of felons and the maintenance of the police force fall entirely upon that portion of real property now rateable, while in 99 cases in 100 the offences are committed against personalty; and the question naturally arises, Why should a certain limited amount of real property bear not only all these expenses, but also that of maintaining the highways? Then we have general district rates for repayment of money borrowed for permanent works, such as sewerage, paving, water supply, &c., and also for maintenance of streets, lighting, scavenging, repairs, &c., all charged upon real property, and charged upon the whole

district under the Local Board, landward as well as town, although in many cases the land receives no benefit whatever from any of these works. No doubt it is charged at a lower rate, but can anyone say that *real property* alone is benefited by sewers, water, and light? *Real property* is already taxed beyond its just proportion; Mr. D. Baxter, in his interesting work on "The Taxation of the United Kingdom," says by $2\frac{1}{2}$ per cent., but I think I can show by his own figures that his estimate is too low. He states that real property ought to bear one-fifth more taxation than personalty, and industrial incomes one-fourth less than personalty, taking personalty as the standard. Now admitting this, how does the matter stand?

If personalty is paying taxes to the amount of 7 per cent.

Real property should pay 8 $2\frac{1}{5}$ ths, say $8\frac{1}{5}$ "

And industrial incomes $5\frac{1}{5}$ "

Now Mr. Baxter states that real property is paying 11 per cent., personalty 7 per cent., and industrial incomes only $3\frac{1}{5}$ per cent., real property thus bearing $2\frac{1}{5}$ per cent. above its normal amount. But what do his own figures show? The whole taxes, local and national, for 1867-8 amounted to £83,115,000. Of this amount the £162,600,000 of real property bore £24,938,375, or deducting one-fourth of the local taxes as being incident to the occupiers—£20,000,000, or $12\frac{1}{2}$ per cent. on the amount taxed. I have not the means of separating the amounts borne by personalty and industrial incomes respectively, but together they pay to the national exchequer £9,959,625 to which must be added the fourth of the local

taxes incident to the occupiers 4,930,375

Amounting together to £14,890,000 or six and two-thirds per cent. on the £223,400,000 returned for income-tax. To this add one-fifth for the amount at which it is claimed real property should be taxed beyond personalty, and we have still only 8 per cent., being $4\frac{1}{5}$ instead of $2\frac{1}{5}$ per cent. less than real property, and if to the amount returned for income-tax under schedules B, C, D, and E, £223,400,000 we add, 1. Unreturned income 17,000,000
2. The amount excused on incomes }
 between £100 and £200 } 12,300,000
3. Incomes under £100 81,300,000

In all £334,000,000

we find that only $4\frac{1}{5}$ per cent. is really borne by personalty and industrial incomes, and although real property is thus overtaxed, it is to have an education rate added to those I have already mentioned. The balance of the £83,115,000 is raised by taxes on expenditure and such licences and duties as are borne by the public at large. Another fruitful source of difficulty and dispute in framing the basis of assessment is the deductions for repairs, insurance, &c., also the rating of tithes upon the annual value, and the numerous deductions allowed therefrom.

2. One effect of these inequalities, exemptions, and anomalies has been to cause the present movement for a thorough revision of the whole system of local taxation, and a growing conviction that, for local purposes, every class and description of real property should be rated. There are also many who call for a rating of personal property, and refer to the Act of Elizabeth in support of their views. That these inequalities and exemptions are wrong in principle, and that all real property from which profit is or may be derived ought to be assessed, is almost universally admitted, and the carrying of this out in a fair and equitable manner is the difficult task to which Parliament will, we trust, address itself.

3. Let us now consider the remedies for these inequalities. Certainly not the rating of personal property for local purposes. If the difficulties of fixing an equitable basis of assessment for real property are great, those attending the framing of such a basis for assessing personal property for *local* purposes are to my mind, infinitely greater. Where is the personalty of those holding in the funds to be rated? In London or in the parish of residence? Or where are railway dividends to be rated, in the parish of residence, at the railway head-quarters, or distributed over all the parishes through which the railway passes? Sir G. C. Lewis says (*c*), "I never heard of any mode by which it would be practicable to levy a parochial rate on personal property," and in answer to the previous question he says, "as far as I am informed of the

details of rates made upon personal property, I doubt whether any such rate could be sustained on an appeal."

The rating of personal property—or "means and substance"—is expressly sanctioned in Scotland by the Act 8 and 9 Vic., c. 73, and attempts were made in several localities to carry it into effect, but with such unfortunate results that, with one single exception (Greenock), they are now abandoned. By that Act it is optional to the Parochial Boards to impose the assessment for the support of the poor in either of three different ways, viz. (1), one-half on the owners, and one-half on the occupiers of all lands and heritages in the parish rateably according to their annual value; or (2) one-half on owners of lands and heritages rateably according to their annual value, and the other half "upon the whole inhabitants, according to their means and substance other than lands and heritages situate in Great Britain or Ireland;" (3), by an assessment "imposed as an equal per centage upon the annual value of all lands and heritages within the parish or combination, and upon the estimated annual income of the whole inhabitants from means and substance other than lands and heritages situate in Great Britain or Ireland." In their first annual report the Board of Supervision (corresponding to the Poor Law Board) say, "We think it not very unlikely that the second and third modes of assessment mentioned in the Act may gradually be abandoned, and the first mode, with or without classification, be adopted by all, or nearly all, the parishes in Scotland." This expectation, after a large amount of litigation and ill-feeling, has been fulfilled, and Greenock alone, for what cause and with what results I know not, continues to assess "means and substance." It appears to me that for local purposes real property alone can be equitably rated, and that relief is not to be obtained by a direct rating of personal property, but

(A) By removing from the local rates, and paying from the national fund those charges which are *national* and not local. Those in which the whole community is quite as much concerned as the union, viz., the county expenditure for the prosecution of felons, maintenance of police force, &c. The maintenance of pauper lunatics, and of highways; the cost of proceedings before justices; payments on account of Registration Act; vaccination fees and expenses; the expenses of Parliamentary and Municipal Registration and of Jury Lists. All those are now paid out of the poor-rate, but should be paid out of the national funds. In this way personal property would be brought to share in the expenses of providing for its security, of maintaining the roads used in its increase and enjoyment, and of those other items I have named, which have hitherto been borne by real property alone, which, as we have already shown, is taxed at $4\frac{1}{5}$ per cent., but say 4 per cent. beyond its fair share. That is to say that £132,500,000 of real property charged under Schedule A in England and Wales pays at present over and above its fair share, taxes amounting to £5,300,000

Now, in 1869, the various items I have proposed to place upon the Consolidated Fund were as follows, viz.:

Payments to County, Hundred, Borough, or Police Rates	£2,564,735
Payments to Overseers to Highway Boards	658,469
Constables' Expenses, and cost of proceedings before Justices.....	42,823
Payments on account of Registration Act.....	76,735
Vaccination Fees and Expenses	64,378
Expenses allowed in respect of Parliamentary and Municipal Registration, and cost of Jury Lists.....	71,213
Maintenance of Pauper Lunatics.....	710,941

Total £4,189,294

But if these sums are paid from the Consolidated Fund, as the real property of the kingdom bears 9 per cent. of the National Taxation, in addition to all Local Rates, there would still fall upon it the sum of... 377,036

And upon the whole tax-paying community only £3,812,258

Leaving real property still overtaxed by £1,467,742

Of the £3,812,258, personalty and industrial incomes would pay £660,790, leaving £3,151,467 to be paid from taxes on expenditure, &c., of which *all* bear their share. In asking, therefore, to have the expense of these national objects paid from the national funds, I am asking only what is strictly just, and what was recommended by the Lords' Committee on Parochial Assessments in 1850.

Mr. Baxter proposes to relieve real property by a rate in aid of three-halfpence in the pound levied on sch. D and E (g). This would only yield the very inadequate relief of £910,475, and would moreover act as a continual irritant to those paying under those schedules, and would at once be denounced as class legislation, whereas the relief I have proposed above would be both more effectual, more just, and less of an irritant.

(B) By including in the assessment for local purposes all real property, from which profits are or may be derived—doing away with the distinction between “gross estimated rental,” and “rateable value,” abolishing all deductions for repairs and insurance. From the annual value of mines, quarries, and other property of a like nature, where the heritage is actually removed and consumed, deductions would require to be made to recoup the owner in a certain number of years. I am aware that the equity of this is denied by some authorities on rating, who hold that while the heritage is there it is liable to full rates, and when it ceases to exist the rate ceases, and if deductions to recoup are allowed, the rate should continue after the heritage is gone. Now I deny the justice of this view altogether, for not only is the risk of working this class of property greater, but the owner is not merely *letting* his property, he is selling so much of it year by year, and the purchase money will remain to be taxed to the national exchequer. All deductions, however, for mere repairs and insurance should be abolished, as well as those allowed from tithes.

(C) By applying to the rating for the poor the principle already sanctioned by the Local Government Act., viz., rating land at a lower amount than houses and shops. This principle is also sanctioned by the Scotch Poor Law Act 1845 (8 and 9 Vic., c. 73, sec. 36) where “the Parochial Board with concurrence of the Board of Supervision” may “direct that lands and heritages may be distinguished into two or more separate classes, according to the purposes for which such lands are used and occupied, and fix such rate of assessment upon the tenants and occupants of each class respectively, as to such Boards may seem just and equitable.” This principle is just, and should be extended to England. It has the support of the late Sir G. C. Lewis, and of Sir John McNeil, chairman of the Board of Supervision, and has given satisfaction in Scotland.

(D) By distinctly defining and giving legislative sanction to the principle on which the annual value of the various classes of real property is to be ascertained. The superior courts have already laid down the principle upon which coal mines are to be rated, viz., that to the rent paid to the owner is to be added the fair annual value of all buildings, engines, tramways, shafts, staiths, &c., provided by the tenant himself, deducting a certain per-centage to recoup the owner for the loss of his heritage, upon the same principle should all other mines and their adjuncts be rated. With regard to railways, docks, gas, and water-works, which are seldom or never let, the court has held that a hypothetical tenant must be assumed, and taking the gross earnings, and deducting therefrom the working expenses, interest on tenants' capital, and depreciation of permanent and rolling stock, have endeavoured to ascertain what annual rent such tenant might be expected to give. This is just the process a judicious farmer follows in offering for a farm. He calculates from the character of the soil, and its locality, the gross annual produce from which he deducts the working expenses, seeds, manures, feeding-stuffs, depreciation of stock, dead and alive, interest on his capital. The balance should be the landlord's rent, though, and unfortunately, from excessive competition, he has frequently to give much more. There is one class of property on which we have no decisive case, that of mansion houses in the country. Locality has much to do with their value, and it is difficult to lay down any general rule; but as they are not built for profit, and are seldom let, probably 3 per cent. on the value of the house, gardens, and pleasure-grounds would be a fair rateable value. Woodlands are seldom let, nor is there a regular annual return

from them, therefore the simplest way of assessing them would be at the agricultural value of the land planted, with a reasonable per-centage on the cost of planting.

II. THE AREA OF ASSESSMENT.—It is now almost universally admitted that the area of rating should be co-extensive with the area of management, and the equity of this is so manifest that it is needless to enter into any argument in support of it. It was feared by some that one effect of the Union Chargeability Act would be to cause less attention on the part of the guardians, when the charge fell on the union, and not on the separate townships. This has not been the case; the attention to the administration of the poor funds is quite as close now as it was before the passing of that Act. The benefits that would arise from the application of the same principle to the highways, would be even greater than in the case of the Poor Law Unions. The districts should be uniform with the unions, and the roads maintained by a district rate, if they are to be maintained out of local rates at all. The Under-Secretary for the Home Department stated last session, in the House of Commons, that the management by parishes was a thing of the past, and certainly the rating by parishes ought to be so, and until the highway, turnpike, township, and *ratione tenura* are all thrown under one management, and paid, if paid from the local rates at all, by a district rate, good roads will not be had.

III. THE PARTIES FROM WHOM THE RATES SHOULD BE LEVIED.—That a large portion of the rates ultimately fall upon the owner is undoubtedly true, but 1st, how often by alteration in local circumstances causing a rapid and unforeseen increase in the expenditure, as well as by alterations in the law, are occupiers holding under lease saddled with a large increase of their rates? By the Acts 24 and 25 Vic., cap. 55, and 28 and 29 Vic., cap. 79, the occupiers, in many cases, had their rates increased by 4, 5, and even 6 times their former amount. To those who are thus, for 10 or 15 years, saddled with an increase which they could not foresee when they took their farms, there is no redress, and they must go on paying till the end of their lease; and even those holding from year to year, not unfrequently go on paying the increase rather than run the risk of being thrown out of their farms by seeking a readjustment of their rents, whereas, if each party paid the amount which is fairly exigible from them, the hardships would be removed. The average incidence of the rates is stated by Mr. D. Baxter to be “three-fourths upon the owner and one-fourth upon the occupier of lands, and one-half on the owner and one-half on the occupier of houses.” He further insists that it is much better that the proportion which each *actually* pays should be charged to him direct. The select committee of the House of Commons, 1870, also report “that it is expedient to make owners as well as occupiers directly liable for a certain portion of the rates.” For *what* portion they do not state. The portions paid in England, Ireland, and Scotland are as follows, viz., in England the portion paid by the owners is nothing—by the occupiers all; in Scotland the owner pays all the county rate, and they and the occupiers pay equally to the poor and highways; in Ireland the occupiers pay county and road rates, and they and the owners divide the poor-rates, so that an occupation, say of £1,000 per annum, a rate of 2s. 6d. in the pound would be thus—

	Owner.	Occupier.
In England.....	Nil	£125
In Scotland.....	£75	£50
In Ireland	£31 5s.	£93 15s.

So that in no case have we exactly the proportions which Mr. Baxter states to be the average incidence of the rates in the United Kingdom, though Scotland approaches nearest to it. I do not, however, propose to saddle the owners with the Scotch amount, but with one-half of all the local taxes, leaving the other moiety to be paid by the occupiers. This, I believe, will be the proportion recommended by the committee, if again appointed.

2nd. A large portion of the rates amounting for the year ending Michaelmas, 1869, to £2,417,391 18s. 10d. is expended by the magistrates, who at present contribute directly (except as ratepayers) no parts of the funds they administer, are wholly irresponsible, are not even bound to submit their accounts to an official auditor, and render no account of their intrusions to those who supply the funds. To obviate in some measure the hardships experienced under the first head, and to

give the magistrates a more direct interest in the funds they administer, I trust the recommendation of the Commons' committee, to make owners as well as occupiers liable for the rates, will ere long receive the sanction of the legislature, so that the burden of any increase in the rates may not fall so heavily on the occupiers.

IV.—THE PARTIES FRAMING THE ASSESSMENT, AND MAKING, ALLOWING, AND COLLECTING THE RATES.—1st. *The framing the Assessments.*—The valuation lists, upon the basis of which the poor rates are levied, are made by the overseers of each township, and are revised and allowed by the assessment committees. These lists form the basis of assessment both for the poor rates and also for most of the local rates. The amount called for by the county finance committee is charged upon the various townships according to a basis of assessment framed by the county rate committee. This committee has not the means of making a uniform assessment. It may (A) call before it the overseers with their assessments, and frame from them a county rate basis, as the committee of this county did in 1862, and took a large amount of trouble in the matter, going from union to union and making inquiries of the various overseers; but they could have no check on the lists and no assurance that the assessment in each township was correct. Any one who has been a member of an assessment committee knows the difficulty of obtaining correct information from the majority of the overseers, and of attaining uniformity even within the union where the townships are generally known to some members of the committee—how much more difficulty when the whole country is to be gone over! or (B) it may take the total amounts of the valuation lists as approved by the various union assessment committees, and frame the basis on these as was proposed in this county in 1865, when it was proved, by unions appealing against the proposal, that the utmost disparity existed between the unions in the manner of framing the valuation lists, and that the proposal would involve an overcharge on some of the unions of 10 to 12 per cent.; or (C) the county rate committee may call for copies of all the lists *in extenso*, and go over them, and alter the lists according to the best information it can obtain, calling in professional aid where it sees fit. In this manner the county rate basis now in force in this county was framed, and is, perhaps, on the whole as satisfactory as the committee has it in its power to make. The county rate committee of Durham have, I believe, employed a professional valuer and carefully gone over each township, raising the county assessment from £1,529,829 in 1862 to £3,385,700 in 1868. This county has been raised from £1,270,051 to £1,394,280. The establishment of union assessment committees, though throwing a large amount of disagreeable and thankless work upon a few of the guardians, was a great step towards obtaining uniformity of assessment. It has to a large extent done this in each union, and has also been a means of bringing under assessment a large amount of property which had previously been omitted, or but partially assessed. The rateable value of Hexham Union, for instance, has been raised from £163,600 to over £200,000. That of Tynemouth from £246,522 to £307,908. That of Chester-le-Street from £78,591 to £151,000, and others in a like manner. So far as the maintenance of the poor is concerned, the working of the assessment committees has been most satisfactory, but where the highway districts are not coterminous with the poor law unions (as is the case in Northumberland), there is no machinery by which the assessment in the portions of the different unions forming the district may be equalized. The work, too, of the assessment committees is greatly increased by the fact that the overseers (who may be, and sometimes are females), are generally changed every year, and as not unfrequently the ratepayers best fitted for the office manage to shirk the disagreeable duty, they require all the time they are in office to learn its duties. Any one who has been obliged month after month to sit on an assessment committee, striving to get at the truth regarding the overseers' valuation lists, and having the same process to go through year after year, must long ago be convinced of the need of a complete change. It is not at all surprising that overseers holding office but for a year should be ignorant of the law regarding rating, when we consider that to become acquainted with these laws he must make himself master not only of numerous acts of parliament, but with the still more numerous decisions of the superior courts—decisions which are not always consistent one

with another. Machinery, for instance, for nearly a century was held by the courts to be rateable whether affixed to the freehold or merely attached, or whether it was real or personal property, or whether it would go to the heir or the executor, when in 1868 the Court of Queen's Bench in *R. v. The Overseers of Halstead*, held that looms and lathes were mere chattels and not rateable. Again, in reference to tithe, it used to be rated on its full amount, when in the case of *R. v. Goodchild and others*, certain deductions were ordered to be made, and, among others, curate's salary; but in a recent case (*R. v. Sherford*, 31 L. P., 436) it is held that curate's salary is not to be deducted, Mellor J. saying, "The fallacy of the assessment consists in confounding the rateable value to the poor with the remunerative value to the incumbent." It is, therefore, as I have said, not surprising that overseers are not acquainted with the law they have to put in force. The remedy for this want of uniformity appears to be

(1) To abolish the office of overseer and appoint in his place a paid officer for each union, who may be called the "rate officer." His duties would be (A) to frame the valuation lists, duly published, and bring them before the assessment committees, with all the information requisite for them to know in reference to the list, and to appear in appeals to the Assessment Committee, and in appeals from it to the county assessment Board, to be after referred to, (B) to make the rates as pointed out, and (C) to collect the rates.

(2) By continuing the Assessment Committees with additional powers, as to having valuations made, employing the county valuer, and examining witnesses on oath.

(3) By the establishment of County Assessment Boards, with power to hear and dispose of all appeals from Union Assessment Committees, or individual ratepayers. An assessor (who might with advantage act also as stipendiary magistrate), should sit with the Board to guide it in questions of law, and on disputed points to grant cases to the Court of Queen's Bench, but in all questions of fact, the decision of the Board to be final.

(4) By the appointment of county valuers who would act as clerks to the County Boards, have a fixed salary, and devote their whole time to the work of the Board and Assessment Committee.

2nd. *The making, allowing, and collecting the rates.*—At present the Poor-rate is made by the overseers, allowed by the magistrates, and collected by the overseers, or in some cases by a paid collector, who may be, and generally is, a different party in each township employing such an officer. From this rate, as we have already said, are paid the county and police rates. Where the Highway Act is not in force, or when the highway township does not correspond with the poor-law township, the township surveyor makes a separate Highway Rate. Then in towns we have general district rate, lighting, and watching rates, water rates, &c., &c., all causing confusion and employing a number of officers where one would suffice. The simple remedy for this incongruous state of matters seems to be to give the Board of Guardians, or the Assessment Committee, acting as the Finance Committee, or Board of the Union, the power of making and levying all rates required for local purposes. Let all the Boards at present empowered to collect local rates send to the union finance board, on or before a fixed date, a statement of all the monies they require for the following year. These amounts being all before the board it would instruct its rate officer to make a rate on the basis of the approved valuation lists, for the various amounts required; the rate should show opposite the name of each ratepayer the amount he has to pay to each separate object—not lumping the whole under one general head, as is now the case. When the rate is made and approved by the finance board of the union, the rate officer should immediately send a demand note by post to each ratepayer, showing the amount on which he is assessed, and the sums he has to pay on account of each separate fund, and naming the days on or before which each instalment of the rate must be paid, and he, as he received the rates, would pay the amounts to the treasurers of the different funds. This abolition of the office of overseer, the appointment of a paid officer, and the consolidation of the rates, I have long advocated; and I am glad to find the Select Committee on Rates (1870) reporting (sec. 5 and 6), "that the great variety of rates levied by different authorities, even in the same area on different assessments with different deductions, and by different

collectors, has produced great confusion and expense; and that, in any change of the law as regards local taxation, uniformity and simplicity of assessment and collection, as well as of economy of management, ought to be secured as far as possible. That the consolidation into one rate of all the local rates collected within the same area is a matter of great importance; and your Committee concur in the resolution of the Select Committee on Poor Rates' Assessment (1868), which recommended one consolidated rate, viz., 'that a demand note should be left with each ratepayer on the rate being made, stating the amount of the requisitions, the rate in the pound for each purpose, and the period for which the rate is made, the rateable value of the premises, the amount of the rate thereon, and of each payment of the instalments of the rates.' Some have proposed that the property and income-tax and house duty should be collected by the same officer, and at the same time; but the policy of mixing up local and national taxes is, I think, very questionable, as is that of leaving the collection of national taxes in the hands of the parish collectors, who are now employed. There can, however, be but one opinion as to the desirability of having the collection of all local rates under charge of one board, and made by one officer.

V. THE PARTIES ADMINISTERING THE RATES.—It is a well established axiom in England that those who provide the funds should have a voice in their disbursement. Let us see how this is carried out as regards the local rates. At present the administration is managed by several distinct bodies. 1st, The board of guardians controlling the expenditure for the poor; 2nd, The highway board (where the Highway Act is adopted) controlling the expenditure for roads; 3rd, The town councils and local boards controlling the rates specially applicable to the towns; and 4th, The magistrates controlling the expenditure of the county and police rates. There are in some localities other bodies—such as sewer authorities, river and harbour commissioners, water authorities, &c., &c.; but these are exceptional and not general as the others are. The bodies included under the first three heads are elected by the ratepayers, with the addition, in the two first named, of the resident magistrates as *ex-officio* members of both boards. In the choice of the fourth body the ratepayers have no voice, and over its expenditure, amounting in 1869, as we have seen, to nearly two and a-half millions, they have no control. The guardians, highway boards, and local boards and town councils are bound to have their accounts regularly audited by an official auditor, independent alike of ratepayers and boards, and to publish the result of the audit. There is no law enforcing an audit of the county accounts by an official auditor. In some counties this is done, but in many counties the audit is made by the finance committee, the very parties entrusted with the expenditure. The cry which has arisen for county financial boards has been caused, I believe, not so much from the idea that there has been mismanagement on the part of the magistrates, as because they give no account of their intromission with the funds contributed by others, nor is it at all surprising that such a cry has arisen, when we find the county expenditure risen to the large sum of nearly two and a-half millions, but it is surprising that for their own exoneration the magistrates do not, in every county, put an end to the necessarily perfunctory audit of the Finance Committee, and submit their accounts to an independent auditor. I do not expect that County Financial Boards will effect any greater economy than is now exercised in the County Expenditure, and would gladly leave it in the hands of the magistrates with an official audit, and publication of accounts; but if the cost of the prosecution of felons, and of the police force, with the maintenance of pauper lunatics, and the other items I have mentioned as being fairly chargeable to the Consolidated Fund, are to remain in charge on the local rates, I do not see upon what ground the demand of the ratepayers to have a voice in the management can be refused. The Select Committee of 1870 admits the principle, when it recommends (Sec. 3 and 4) that if owners are to pay a portion of the rates, they should have a direct voice in the management. If, however, these various items of expenditure come, as I think I have shown they ought, from the Consolidated Fund, then the Government would act wisely in continuing the management in the hands of the magistrates who have the time and local knowledge requisite for an efficient performance of the work; but if on the other hand these charges are to continue to come from the local rates, then the burden ought to be divided be-

tween owners and occupiers in the proportions I have before stated, and the administration entrusted to Boards fairly representing both parties. In conclusion, let me urge that we have no more legislative patchwork; let us have the whole question of local taxation fully investigated, and the result consolidated in one act, the first clause of which should make a clean sweep of the puzzle and confusion now existing in consequence of the multitude of acts and decisions on which the law of rating now rests.

The CHAIRMAN said that those who followed closely the reading of Mr. Dods' Paper would find it difficult to rise and criticise what was stated in it; it was so elaborate that it would almost require them to read it over if they wanted to thoroughly discuss it. They had already partly discussed the subject to which he himself had given a great deal of consideration, and gone into more or less all the topics which Mr. Dods had touched upon. In almost all the conclusions Mr. Dods had come to with regard to local taxation, he pretty fully agreed. There was nothing worse than the patchwork which they had had with regard to local taxation, and he hoped that Parliament would soon take up the subject, and that they would get more uniformity in the collection of rates, in the administration of funds, and the assessment of property. The more the subject was discussed by Clubs and Chambers of Agriculture, the more it would be pressed upon the attention of Parliament, and Parliament was more ready to take up a subject that was continually dinned into the ears of Ministers than from purely philanthropic motives.

Mr. JOSEPH LEE (Dilston) proposed a vote of thanks to Mr. Dods. He differed from Mr. Dods in one respect, and that was as to how the ability of a parish should be rated for the relief of the poor. He was in favour of landlords paying a third of the poor rates, the occupier another third, and the remaining third to come from the Imperial Exchequer. As to pauper lunatics Mr. Dods proposed that they should be paid for by Government, but if that was adopted he was afraid there would be a tendency in Unions to send persons to a lunatic asylum who ought not to go there, and who at present were kept in the workhouses.

Mr. M. SMITH spoke of the additional burden which was thrown upon many tenant-farmers when the Bill for Union Rating came into operation. He held that every source from which income was derived should contribute towards the maintenance of the poor. He seconded the vote of thanks to Mr. Dods for his very able and sensible paper.

The motion was carried with acclamation.

At the adjourned meeting held on Tuesday, Jan. 31, Mr. C. C. Grey in the chair, the paper on Local Taxation, as read by Mr. T. P. Dods, again came under consideration, and Mr. Joseph Lee moved, "That the support of the poor is a national duty and should be paid out of a national rate on personal as well as real property; but in consideration of having local management it is expedient that two-thirds should be paid from local rates and the other portion from the Imperial Exchequer." Mr. J. B. Lee seconded the proposition. The Chairman thought a general resolution, to be drawn up by a small committee, embodying the views of the Club, and recommending the whole subject, as set forth in Mr. Dods' paper, would be preferable to passing a resolution like Mr. Lee's, which only touched one part of the subject. Mr. Lee agreed to withdraw his motion, and it was also thought that if the Club could bring its influence to bear upon those gentlemen who are likely to sit upon the Committee of the House of Commons, it would be better than sending up petitions; and therefore copies of Mr. Dods' paper will be sent to those gentlemen, and to others who are taking an interest in this question.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the general meeting held in the Society's Hall, Edinburgh, the Marquis of Tweeddale, President of the Society, in the chair, The office-bearers for 1871 were appointed.

The Secretary read a list of sixty proposed new members, all of whom were duly elected.

Sir WILLIAM GIBSON-CRAIG read minutes of meetings of the committee, from which it appeared that the committee had resolved to recommend to the directors the propriety of extending the annual benefits of the Society to such amount of income as the directors find prudent, and to suspend in the meantime, so far as competent, any addition to the capital. It was also recommended that a committee should be appointed to take into consideration the chemical department of the Society, with the view to afford the benefit of chemical investigations to the agriculturists all over the country. Another recommendation was that the travelling expenses of directors resident at distances should be paid; also that fees be paid to examiners. It was moved in committee by Sir Wm. Gibson-Craig, Bart., and seconded by Mr. Dickson, that the committee recommend the directors to increase the Secretary's salary by £150 per annum.

An amendment was proposed by Mr. Melvin, and seconded by Mr. Hope, that it is at present inexpedient to make any increase to the salary of the Secretary. The motion was carried by 12 to 4. The Board had appointed a committee to consider the chemical department, and to report. A committee was appointed also by the Board to consider how the recommendation regarding the travelling expenses of directors could be best carried out.

On the motion of Captain Maitland Dougall, it was unanimously resolved to increase Mr. Menzies' salary by £150 per annum.

The meeting approved of the report.

The accounts of the Society were then submitted by Sir William Gibson-Craig, Bart. The income from all sources amounted to £8,808 17s. 1d., and after deducting expenditure there remained a balance in the Royal Bank of Scotland at 30th of November last of £1,808 7s. 7d. The accounts were approved of.

Mr. MURRAY (Dollerie) stated that the directors at their meeting on the 2nd November had, on the suggestion of Mr. Dundas, of Arniston, remitted to the Finance Committee to reconsider the proposed alteration on Bye-law No. 2, which it would be in the recollection of the meeting had been referred back to the directors by the general meeting in June, and that Mr. Dickson, of Corstorphine, Mr. Dundas, of Arniston, and Mr. Mylne, Niddrie Mains, had been added to the Finance Committee specially for the purpose of considering the subject. The existing bye-law is in the following terms: "That tenant farmers, secretaries and treasurers of local agricultural associations, factors, and proprietors farming the whole of their own lands, whose assessment in the valuation roll does not exceed £500, shall pay at admission, and afterwards annually, in advance, the sum of ten shillings, with the option and power of redeeming the same by payment of five guineas, as the purchase of a life subscription, and which life subscription may be so purchased, under deduction of any annual payments that the member may have previously made, with this limitation, that at no time shall a member have the power of redeeming the annual payments for a less sum than £3." The committee met on the 23rd of November, when after mature deliberation, it was unanimously resolved to recommend that the bye-law should be amended as follows: "That proprietors farming the whole of their own lands, whose assessment on the valuation roll does not exceed £500 per annum, and all tenant farmers, office bearers of local agricultural associations, resident agricultural factors, land stewards, foresters, agricultural implement makers, and veterinary surgeons, none of them being also being owners of land to an extent exceeding £500 per annum, shall pay at admission and afterwards annually, in advance, the sum of ten shillings, with the option and power of redeeming the same by payment of five guineas, as the purchase of a life subscription, and which life subscription may be so

purchased under deduction of any annual payments that the member may have previously made, with this limitation, that at no time shall a member have the power of redeeming the annual payments for a less sum than £3." The report by the committee having been, in terms of the charter, brought before the directors on the 7th of December and the 4th of January, was unanimously approved, and directed to be submitted to the general meeting in January for approval, and ordered to be submitted to this meeting. He moved that the alteration be approved of.

Mr. DUNDAS (Arniston) having seconded the motion, it was passed.

Mr. KINLOCH, Jun., of Gilmerton, said it would be very gratifying to learn that the late show at Dumfries in July last had been, in a financial view at least, a very great success. He was informed that this was the first, except those held at Edinburgh and Glasgow, that had paid its own expenses. A suggestion had been made to extend the show. However that might suit exhibitors of machines, it was held that it would not be satisfactory to the owners of stock or those connected with the management, or the public themselves, for on the last day of the show the amount received at the doors fell off considerably. In fact, two sixpenny days were found to be too much. At the forthcoming show at Perth, to be held on the 26th, 27th, and 28th July, it was proposed to revert to the three days' arrangement—the judging to commence on the morning early, the public to be admitted for 2s. 6d. on the Wednesday afternoon; Thursday, at 1s.; and Friday, 6d. There was an alteration in regard to Rule 13, which dealt with a point of considerable interest, namely, the veterinary examination of horses. Last year they acted upon what was not an unreasonable idea. The directors made a rule by which horses selected for prizes were to be passed by a veterinary surgeon before being awarded prizes or certificates of merit. The directors would not in future receive any protest on the ground of unsoundness, as they would not allow themselves to be put in the position in which they were placed the year before last. At that time an objection was taken to the prize horse on the ground of unsoundness; and after the horse was examined the prize was given to the second animal. It afterwards eked out that the second animal was as bad in this respect as the first animal. In consequence of no protest being lodged in time against the second horse, an inferior animal carried off the prize. He had only further to intimate that a requisition had been received from the counties of Berwick, Roxburgh, and Selkirk, praying them to hold the show of 1872 at Kelso. The directors approved of this request, and it was for the meeting to confirm their approval, if it thought fit.

The meeting passed the resolutions, and agreed that the show of 1872 should be held at Kelso.

Mr. MUNRO (Fairnington) moved, "That a class of implements for competitive trial be annually fixed on, the implements to be exhibited at the show, and the trial to be held at a time of year best suited for testing the strength of the implements and the work performed. That the trial be extended over a longer time than has hitherto been the practice, and that it be remitted to the directors to make arrangements with the manufacturers as to the manner in which the trials may be most satisfactorily carried out."

Mr. ORD (Muirhouselaw) seconded the motion.

Mr. KINLOCH, Jun. (Gilmerton) suggested that the whole matter should be remitted back to the directors.

This was agreed to.

Mr. CAMPBELL SWINTON (Kimmerghame) reported that during the past year the Society's premium and medals had been in operation in 260 different localities. The money premiums awarded amounted to £292 10s., besides four medium gold, ten silver, 199 medium silver, 44 minor silver, and 164 plough medals. For 1871 the directors suggested for the approval of this meeting the following grants: Eight districts for cattle premiums, at the same rate as last year, viz., £17 and four silver medals each, besides a special grant of £20 for

three alternate years, to the Island of Unst; three districts for stallion premiums of £25 each, and two for mares at £7 and a silver medal each; five districts for sheep at £16 and five silver medals each. The premiums for cattle and sheep were given to each district for three alternate years, and the directors had this year suggested that a certain number of medals should be given in the intermediate years. Formerly only one was given, but it was now proposed to allow four for cattle and five for sheep; one district for swine, at £7, and three silver medals; two districts for dairy produce, at £8 and four silver medals, besides the usual medals to be competed for at Kilmarnock; seventy districts, for 218 medium silver medals, for green crops; best-managed farms; best male and female animals, seeds, &c. It was also proposed that the offer of the plough medal should be continued under the usual conditions. The directors further had to propose that the grant of £50 to the Edinburgh Christmas Club be given in 1871.

Mr. MAXWELL INGLIS, (Loganbank), reported that in 1870 competition for the Society's money premiums and medals took place in twenty-two parishes, when £30 and forty-one medals were awarded. The directors suggested, for the sanction of the general meeting, the following scheme for 1871, viz.: Twenty-one parishes for cottages and gardens at £3 and four silver medals each; twenty districts where the money premiums are given by the proprietors for forty medals—two to each district; the gold medal to the proprietor in Scotland who shall report the improvement of the greatest number of cottages in 1868, 1869, and 1870; the gold medal to the proprietor in Scotland who shall report the erection of the greatest number of approved cottages; the gold medal to the proprietor in Scotland who shall have erected on his estate the most approved farm buildings in reference to the proper accommodation of farm-servants. The rules of competition for the several prizes are contained in the general list of premiums for the current year, and copies may be had on application to the secretary after the 14th of February. He regretted that there was not sufficient interest taken in the condition of agricultural labourers' cottages. He thought that the attention of landed proprietors might with advantage be more devoted to the subject.

Dr. ANDERSON reported that during the past half year the business of the Chemical Department has been conducted without intermission, and analyses of the usual character have been made for members of the Society, including those of almost every variety of manures, feeding stuffs, waters, &c.; and though the number of these analyses has scarcely been equal to that of last year, it is quite up to the average of previous years. The great majority of those analyses present no features of sufficient interest to induce me to occupy the time of a general meeting, but some facts worthy of notice have been observed. There have been fewer analyses of Peruvian guano than usual, but the inferiority in quality which I have referred to on previous occasions has continued, if not increased. As a general rule the samples have contained a very considerably larger quantity of sand than formerly, and 5 or 6, and in more cases 10 or 11 per cent. of that substance had been observed, while at the same time the ammonia has not unfrequently fallen short of 15 per cent. or more than 2 per cent. below what two years ago was considered to be the average of genuine Peruvian. It is to be noted that the value of Peruvian guano has fallen to the extent of from £1 5s. to £1 10s. per ton, while its price, so far from diminishing, has increased. These facts merit the attention of the farmer, and should lead to increased economy in the use of this manure. An increase indeed has taken place in the price of all manurial matters, which should induce an increased amount of attention to economy of the manure heap. As regards feeding stuffs my report must on the whole be rather favourable than otherwise. The amount of adulteration has been rather smaller than usual, and although some samples of very inferior articles have been analysed, I believe that if proper care and precaution be taken there is no very great difficulty in procuring a genuine article. During the past season, the rotation field experiments have been continued, and next year will be completed, when it is hoped the results will be found to be of interest and importance, though the seasons have not been on the whole very favourable to bringing out the full effects of artificial manures. Although I have found it necessary, acting on the advice of my medical attendant, to ask the directors to extend my leave of absence, I have done all in my power to superintend

the work of the laboratory, and my health is now so far re-established that I expect shortly to return to my work; and I cannot conclude without expressing my best thanks for the kind consideration I have received during my long illness—a consideration which I believe has had no little effect in promoting my convalescence.

(Signed)

THOMAS ANDERSON.

16th January, 1871.

Mr. GILLON (Wellhouse) stated that the question of opening up the veterinary examinations had again been before the committee, and they had agreed that the examinations should be opened up. He also read the report on horse-shoeing. He had had all his horses shod for the last six months on the Charlier system, and in all his experience he never had his horses more satisfactorily shod. Horses, instead of getting "groggy" as they grew older, got better.

A list of premiums awarded in 1870 for essays and reports was presented.

The Marquis OF TWEEDDALE stated that it would be in the recollection of those present that the Society, at its general meeting on the 19th of January, 1870, had resolved to renew the Special Committee on steam cultivation; that the question of double-furrow ploughs drawn by Thomson's india-rubber tire-wheeled engines should be considered, and that the committee should also take into consideration generally the subject of cultivation by steam. The resolution then adopted was brought before the Board of Directors on the 2nd of February, 1870, when it was resolved to leave the details to be carried out by the Special Committee, no limit in regard to time being required. The subject was again before the directors on the 7th of December, when the Secretary stated that no meeting of the committee had been called, in consequence of his being unable to arrange a trial of ploughs drawn by Mr. Thomson's india-rubber tire-wheeled engine. It had been the intention of the committee to inspect Lord Dunmore's plough, drawn by Mr. Thomson's engine last spring; but owing to unfortunate circumstances, it was impossible to make the inspection. It had again been attempted in autumn to have the inspection; but owing to Lord Dunmore's accident, and a break-down of his plough, it had not taken place. It is understood that now all is ready; and as soon as the weather will permit, an inspection will be arranged. Lord Dunmore was present, and he would perhaps give the result of his experience.

Lord DUNMORE said that he had not the slightest idea that he should be asked for any statement at all about what he had been trying to do; but he would be happy to give them, as far as he recollected, the result of the experience he had had of steam-cultivation. As far back as February of last year he commenced work with a six-horse power engine and a four-furrow plough, and he came to the conclusion that such an engine was not sufficiently powerful to draw a four-furrow plough through stiff clay land. Within the last summer he had built a new engine of eight-horse power. The first one was on a different principle from those of Mr. Thomson's. His original was a horizontal engine. The first he (Lord Dunmore) had was a vertical, and he found that it answered better for the work, and that it could be worked by only a man and a boy, instead of two skilled men. The new engine he had built in summer was much more powerful than his former one. He began work by reaping the harvest by steam, and he found that the wheels, which he had made much broader—21 inches of india-rubber, instead of 11 or 12—made hardly a perceptible impression on the stubble. He began ploughing with a single three-furrow plough, and they made very good work, so much so that Mr. Head, of Messrs. Ransomes and Sims, who had come to inspect the working with a poor opinion of what could be done, expressed himself highly satisfied, and took the first train to Edinburgh to take a license from Mr. Thomson to make the engines. He thought the thing was in its infancy; but he believed that they would be able through time to produce something that would work well. In the first week in October he ploughed upon stubble with the three-furrow plough. Although they were new at the work, they did half-an-acre in forty-eight minutes. They broke several things, and took more than forty-eight minutes to another half-acre; but he believed in time they would be able to do an acre in an hour—he should think at an expense under 5s. Ever since that trial which

they had, and which was quite private, they had had draughtsmen down from all the large firms in England to copy the engine. They were all going to adopt the vertical engine and broad wheels. He had been trying to discover an expedient to avoid the turning of the plough and engine, which had been found inconvenient in short rigs, and he thought he had succeeded. He had got Mr. Gray, of Uddingstone, to make a vertical engine, which he thought would succeed.

A vote of thanks was passed to the Chairman.

A monthly meeting of the directors of this Society was held on February 1, in Edinburgh, Sir James Gardiner Baird, of Saughton Hall, Bart., in the Chair.

A letter from Mr. William Fiskien, Stamfordham, Newcastle-on-Tyne, suggesting that the special committee on steam cultivation should inspect the Fiskien steam cultivation tackle was referred to that committee.

The following special committee was appointed to consider and report on the system of engaging farm-servants, with reference to the propriety of recommending the adoption of registers throughout the country: Sir William Stirling-Maxwell, of Polloc, Bart.; Mr. Vans Agnew, of Barnbarroch; Mr. Currer, The Lee; Mr. Dickson, of Corstorphine; Mr. Elliot, Laighwood; Mr. Hog, of Newliston; Mr. Irvine, of Drum; Mr. Mitchell, Alloa; Mr. Mylne, Niddrie Mains; Mr. Russell Pilmuir—Mr. Irvine to be convener.

The remit from the general meeting in regard to the motion by Mr. Munro, Fairnington, that a class of implements for competitive trial be annually fixed on, was referred to the Committee on General Shows and the Machinery Committee.

The minute of the special Finance Committee recommending—1st, that the directors should authorise the Secretary to pay the railway return fare of all such directors as may claim it for the days they have attended the meetings of the Society. 2nd, that the fees to examiners in agricultural education and forestry should be 2 guineas per day to each examiner, in addition to travelling expenses, was again before the board, when it was resolved to approve of the fees to examiners being paid as recommended by the Committee, and to resume consideration of the travelling expenses of directors at the next board meeting.

The committees for the current year were arranged.

The SECRETARY read the following proposal by the President to form a committee on the general improvement of land in Scotland: "In consequence of being so often asked, I have brought this subject before the directors. I have for many years thought that the improvement in breeding cattle, sheep, pigs, &c., had reached its climax of perfection; and though I would not desire to see our prizes for stock discontinued, it appears to me that there is a question of greater importance to the public which should occupy the attention of the Highland Society—viz., the improvement of the cultivation of land, so as to increase the produce of human as well as of animal food. I make this proposition, as I believe from experience that the land of second and third quality is capable of a very great improvement, at a much less expense than farmers imagine, were they possessed of the means applied by the most experienced in carrying out successfully the contemplated improvement. It is in the hopes of accomplishing this object that I am induced to propose to the board to form a committee in order to report how they would recommend it to be accomplished." The proposal being approved of, the following gentlemen were appointed: The Marquis of Tweeddale; Mr. Dickson, of Corstorphine; Mr. Smith, Whittingham; Mr. Swinton, Holyn Bank; Mr. Young, Keir Mains; Mr. Elliot, Laighwood; Mr. Stephens, Redbrae; Mr. Mitchell, Alloa; Mr. Hunter, of Thurston—the Marquis of Tweeddale convener.

Mr. F. N. MENZIES called the attention of the board to the French Peasant-Farmers' Seed Fund, the consideration of which had been postponed at the meeting of directors held on the 4th January.

Mr. GRAHAM BINNY stated that as there appeared to have been some misapprehension as to the steps taken by the board in this matter, and as he, as senior director present, had been chairman at the meeting on the 4th January, he thought he should explain to those of the directors who were not present

at that meeting that the matter had simply been postponed. The directors had not decided on any course of action; but had only put off the consideration of the subject till now. After a lengthened discussion, chiefly as to whether the Society could, under the powers of its charter, vote its funds for such an object, it was ultimately decided that it could not.

A proposal to form a committee to raise subscriptions was considered, but was not adopted, as the board was of opinion that the committee already formed was sufficient, and that another committee would not, perhaps, be of advantage. It was ultimately resolved that the board express a deep interest in the success of the movement, and their hope that as it was not in the power of the Society to devote its funds to subscriptions of the kind, the members of the Society would do their best to assist in promoting so laudable a fund; and that the Secretary be instructed to send a circular to the secretaries of all agricultural associations who are receiving aid from this Society to request that they will call the favourable attention of their members to the movement.

The following letter from Dr. Anderson, addressed to the secretary, was read:

London, 16th January, 1871.

My dear Sir,—The letter from Mr. Melvin, which was read at the meeting of directors of 4th January, calls for some observations from me, as he has in certain respects greatly misunderstood my meaning, and in others shows an imperfect knowledge of the nature and extent of the work done in the laboratory. He says that little has come of the attempts which have been made to utilise refuse matters as manures. But it seems to me that, if fairly considered, results of much importance have been obtained. A great number of refuse matters have been examined, their real value ascertained, and some of them are actually now employed with advantage as manures. Much more frequently, however, it has happened that refuse matters have been brought to me with the statement that, having been used by some farmers in the neighbourhood of the works where they are produced, they have been found to give results equal to or better than those obtained from the best Peruvian guano; while analysis has shown that where the cost of carriage and expense of application were taken into account they could not be used with any prospect of success, except in the most special and exceptional circumstances, and could not be made to replace the ordinary artificial manures as had been alleged. I need scarcely say that such conclusions, though less gratifying, are not less important to agriculture, and prevent the serious losses which ignorance too often entails. The fact is that the utilisation of refuse matters is not a field in which a great deal can be done, for the valuable constituents of manures are so useful for other purposes that they are seldom allowed to go to waste when it is possible to economise them; and the negative results too often obtained in such inquiries are due to the prevalent impression that what is of no value for other purposes must be of great value as a manure. As regards the utilisation of the ammonia from shale works, my attention has been directed to that subject. The mode of economising and converting it into a marketable commodity is perfectly well known to all manufacturers who understand their business, and in most of those with which I am acquainted it is regularly worked up and brought to market, but I know that in some of them the quantity is so inconsiderable that the manufacture cannot be carried on with profit; and in regard to this point it must be observed that the profit which can be obtained depends not merely on the quantity of the substance, but to a great extent on the proportion of worthless matters with which it is intermixed, by which the cost of obtaining it in a marketable state becomes so high as to exceed the value of the material obtained. As a remarkable illustration of this point, though bearing upon a totally different subject, I may state that the sands of the River Rhine are known to contain gold amounting in value to many millions sterling; but none is extracted from it, because the cost exceeds the value of the gold obtained. Mr. Melvin refers also to the refuse obtained in the manufacture of oatmeal, but does not seem to be aware that all the different kinds of mill refuse were examined in the laboratory some years ago, and full details of their composition and value were published; and I think I am fairly entitled to claim as the result of the labours of the chemical department, the fact that the refuse formerly burnt now fetches, according to Mr. Melvin's own statement, a few shillings per ton, which

is certainly the full value of the article at the present prices of manures. Mr. Melvin seems to think that it is employed for the adulteration of manures, and resold to the farmers at a price above its value; but I do not think this is possible, for the cost of manipulating it in such a manner as to conceal its

texture would be considerable; and even if it be, I do not see that any one is to blame except the farmer if he purchases an article without having assured himself of its real value.

I am, dear sir, yours truly,
F. N. Menzies, Esq.

THOMAS ANDERSON.

THE SMITHFIELD CLUB.

A Council meeting was held on the 31st January. Present: Mr. Torr, trustee, in the chair, and afterwards Lord Tredegar, vice-president; T. C. Booth, J. Beasley, J. N. Beasley, C. C. Bigge, W. B. Canning, W. Farthing, Brandreth Gibbs (hon. sec.), J. Giblett, R. Hornsby, C. Howard, R. Leeds, E. W. Moore, R. J. Newton, W. Bigden, T. L. Senior, C. Stephenson, J. Wilson.

Professor Simonds' report on foot-and-mouth disease at the late show was read.

The subject of the detention of animals that may occur at future Shows was referred to the Stewards to investigate and consider and report to the next Council.

The Hon. Sec. reported the deaths since the last Council meeting of Lord Walsingham and the Earl of Aylesford, vice-presidents of the Club.

It was resolved: That the thanks of the Council be accorded to the Right Hon. Lord Penrhyn, president elect, for his handsome donation of £100 to the funds of the Club, and also the regret of the Council that his lordship is unable to accept the presidency of the Club for the year 1872.

Mr. E. W. Moore of Colehill, Highworth, and Mr. Jacob Wilson, of Woodhorn Manor, Morpeth, were elected stewards of live stock for the ensuing three years.

Mr. Joseph Druce and Mr. Robert Leeds were re-elected stewards of implements.

The prize-sheet for the next Show was revised.

In the Scotch polled division the ages of heifers in class 20 is in future to be not exceeding four years, and a new class established for cows above four years old (that must have had at least one live calf), with one prize of £15, and a silver medal to the breeder.

In the Irish division the second prize in each class to be discontinued, and after the words "Irish breeds of cattle," to be added, "not being Devons, Herefords, Shorthorns, Sussex, Norfolk, Longhorn, Scotch, or Welsh breeds."

It was resolved: That class 62 for long and short-wool cross-bred sheep, one-year-old not exceeding 220lbs. live weight, be abolished. That rule 9 having become obsolete be erased. That rule 12, which has hitherto precluded animals being exhibited again except in Extra Stock, be expunged, and the following substituted, by which animals may now be exhibited again in the classes, but not again in the same class, viz.: "No animal exhibited at any previous show of the Club can again compete in the same class."

Rule 21 was amended.

In the division for mountain sheep, the words "not being Cheviot" were added.

Several alterations and corrections were made in the wording of the conditions of some of the classes.

It was resolved, That in future the men in charge of live stock at the Show lead out their animals before the judges.

On the suggestion made at the general meeting that the house-list should be sent either to all members of the Club or to the members of Council being discussed, it was determined that the rule should remain as it is, viz, a list of members of the Council who retire by rotation shall be prepared by the Council. The Council shall prepare a list of the eight members whom they propose for election in place of those who retire, and a copy of this printed list shall be given to any member who applies for it to the Secretary, either on the day of the general meeting or on any of the three days previously (Sunday excepted) between the hours of ten and four.

On the suggestion that a portion of the Council should act with the stewards in the selection of the judges, it was resolved, That such of the eight senior members of the Council as shall not be exhibitors shall be added to the judges' selection committee, which at present consists of the president and

stewards of live stock; also that the said committee shall report their recommendations to the November Council.

It was decided that the Council Meeting and General Meeting during the Show should be held on the Tuesday as heretofore, the former at 11 o'clock, and the latter at 1 o'clock.

It was decided that the Statement of Accounts for the past year should be printed and handed round to the Meeting during the Show, instead of being read by the Hon. Sec. as heretofore.

It was determined to take measures to ensure the herdsmen and shepherds having the prize placards referring to their animals to take home; also that copies of the same be duly prepared to be delivered to the butchers purchasing the animals on their removal from the Show.

The Council gave instructions that the attention of the Agricultural Hall Company be again directed to the subject of improved ventilation in the Pig Hall; also as to more accommodation for the herdsmen and shepherds in attendance on the live stock at the Show.

The application from the *Farmer* newspaper to be placed on the list of papers who receive the Club's advertisements was granted.

Letters were read and instructions given thereon.

The date of the next Show was settled to be as usual, viz., in the week preceding the London great Christmas market.

The Implement Committee was re-appointed, with the same powers as before.

Mr. George Napper, of Wisborough Green, Horsham, Sussex, was elected a Member of the Club.

Mr. Giblett laid before the meeting the following statement relative to the comparative live and dead weights of several of the beasts exhibited at the last show, and gave notice of motion for further consideration of this subject at the next Council: "Reference to the live and dead weights of the animals in the hall, will prove that to continue weighing them alive and procuring the dead weights is both interesting and instructive; for the opinions of owners, buyers, and sellers are often various and in many cases very erroneous, which a reference to the live weights necessarily corrects. It appears from the annexed table that in quite neat steers, small well-bred oxen, and heifers, two-thirds of the live-weight indicates and represents the dead-weight, and that in large coarser animals and cows the offal weighs considerably more than one third. It is well worth the attention of practical men to note in what proportion they differ; but the live weight is a tolerably sure test of worth, taking into consideration that the small best quality beasts are worth so much more per lb. As regards the butchers' interest with respect to fat cattle, particularly at Christmas time, the live weight of the animal is a proof of how much it is worth, the extra weight of part of the offal, viz., the interior fat, being worth nearly as much per lb. as the meat. This is illustrated in Mr. Overman's ox, which carried the extraordinary quantity of 40 st. 4 lbs. of fat, the carcass weighing proportionately less. The Smithfield Club has done much good by encouraging the production of the largest quantity of beef at the earliest age, being greatly to the advantage of feeder and consumer, and discouraging the over-fed monstrosities we used to see at Baker-street. The last exhibition was one of the best in this respect, for its general evenness and quantity of excellent meat. I would recommend that an annual account be published of the live and dead weights, and that butchers be invited to send the weights to the Hon. Secretary, with their names and addresses for publication."

A vote of thanks was passed to The Right Hon. Lord Tredegar (Vice-President), for his lordship's able conduct in the chair.

FRENCH PEASANT FARMERS' SEED FUND.

A meeting of the General Committee of this Fund was held on Monday, January 30, at the Salisbury Hotel, Salisbury-square, to receive a report from the Executive Committee, and to discuss the following motion—"That it is desirable to secure the services of an agent to go to France to aid in the distributions of the committee. Lord VERNON presided. Mr. Brandreth Gibbs, one of the honorary secretaries, read the minutes of the last meeting, which were confirmed. Mr. H. M. Jenkins, another honorary secretary, read the following report of the executive committee.

The Executive Committee beg to lay before the General Committee for England, the following report of the progress already made in carrying out the objects for which they were appointed, viz., the organization of the proceedings of the French Peasant Farmers' Seed Fund, the collection of donations of corn and other seeds, and money subscriptions for their purchase, and the gathering of information as to French requirements—the determination of the period at which distribution should be commenced being specially reserved for the decision of the General Committee.

The Executive Committee having communicated to the several gentlemen named at the meeting on the 5th of January, the wish of the General Committee that they should allow their names to be added thereto, affirmative replies have been received from the following noblemen and gentlemen, who at present constitute the committee:

LORD VERNON, Chairman.

JAMES HOWARD, Esq., M.P., Treasurer.

GENERAL COMMITTEE.

The Earl of Airlie-	J. N. Lee, Esq.
J. Mander Allender, Esq.	Lieut.-Colonel. Loyd Lindsay,
C. E. Amos, Esq.	V.C., M.P.
T. Aveling, Esq.	John W. Larking, Esq.
C. Barnett, Esq.	W. Gore Langton, Esq., M.P.
M. T. Bass, Esq., M.P.	Peter McLagan, Esq., M.P.
E. T. Bennett, Esq.	James Mason, Esq.
Charles Selby Bigge, Esq.	Sir W. Miles, Bart.
N. G. Barthropp, Esq.	The Hon. G. W. Milles, M.P.
T. W. Bramston, Esq.	Charles H. Mills, Esq., M.P.
The Rt. Hon. H. Brand, M.P.	J. Chalmers Morton, Esq.
John Burnell, Esq.	James Odams, Esq.
C. Buxton, Esq., M.P.	Thomas Pilter, Esq.
Clement Cadle, Esq.	J. Pim, Esq., M.P.
James Caird, Esq., C.B.	The Earl of Powis.
C. S. Cantrell, Esq.	Charles Parrott, Esq.
Lord Charteris.	G. H. Ramsay, Esq.
J. Algernon Clarke, Esq.	R. C. Ransome, Esq.
John Clayden, Esq.	Clare Sewell Read, Esq., M.P.
Henry Corbet, Esq.	T. Rigby, Esq.
Sir Herbert Croft, Bart., M.P.	J. B. Robinson, Esq.
Captain Dashwood.	A. S. Ruston, Esq.
D. Reynolds Davies, Esq.	Bernhard Samuelson, Esq.,
Macarthy Downing, Esq., M.P.	M.P.
The Hon. O. Duncombe.	C. Sartoris, Esq.
The Marquis of Exeter, K.G.	G. Slater, Esq.
Lord Edmond Fitzmaurice,	Lord Stanley of Alderley.
M.P.	Charles Stephenson, Esq.
D. T. Fortesque, Esq.	Martin H. Sutton, Esq.
R. N. Fowler, Esq., M.P.	Captain the Hon. Reginald
E. Greaves, Esq., M.P.	H. Talbot, M.P.
The Earl of Harrowby.	W. Tomkinson, Esq.
C. Wren Hoskyns, Esq., M.P.	J. Walter, Esq., M.P.
Charles Howard, Esq.	W. Wells, Esq., M.P.
Frederick Howard, Esq.	The Marquis of Westminster.
Sir Harcourt B. Johnstone,	C. Whitehead, Esq.
Bart, M.P.	Colonel F. Maitland Wilson.
J. Bowen Jones, Esq.	Jacob Wilson, Esq.
E. W. Kingsbury, Esq.	T. B. Wright, Esq.
J. B. Lawes, Esq., F.R.S.	The Editor of the "Farmer."
J. B. Lythall, Esq.	The Editor of the "Field."

B. T. BRANDRETH GIBBS, }
 H. M. JENKINS. } Hon. Secs.
 W. H. DELANO, }

The Executive Committee were nominated on the principle that every branch of the agricultural interest should be represented; and at present consists of Lord Vernon (chairman), Captain Dashwood, and Messrs. T. Aveling, James Caird, C.B., J. Algernon Clarke, H. Corbet, James Odams, and C. S. Read, M.P., with the Honorary Treasurer and Honorary Secretaries.

The Executive Committee have given their attention to the formation of County Committees, in order that the necessary steps should be taken for the prompt collection of subscriptions. Communications have therefore been sent to the Chairman and Secretary of each Agricultural Society, Chamber of Agriculture, and Farmers' Club, and to such gentlemen in each county as appeared to the Executive Committee most likely, from their influence in their county and their interest in agriculture, to assist in facilitating the movement. Several satisfactory replies have been received, and in some counties meetings have already been held. The exertions which had previously been made by the War Victims' Fund Committee for the supply of seeds to the distressed farmers of the Metz district received the early attention of the Executive, and proposals were made with a view to bring the two Committees into harmonious communication, in the following letter addressed by one of your Honorary Secretaries to the Chairman of the Executive Committee of the War Victims' Fund:

January 14th, 1871.

SIR,—I have the honour to inform you that your letter dated the 7th inst. was laid before the Executive Committee of the French Peasant Farmers' Seed Fund at their meeting last night, when I was instructed to inform you that it was deemed highly desirable to establish a direct communication between the two Committees, and that our Committee will gladly receive at their meetings any representative that the War Victims' Fund Committee may nominate, to attend when subjects affecting the mutual action of the two Committees shall come under consideration; and should the War Victims' Fund Committee desire it, the Executive Committee of the French Peasant Farmers' Seed Fund will be happy to nominate one of its members to attend the meetings of your Committee on similar occasions.

I am, sir, your obedient servant,

H. M. JENKINS, Hon. Sec.

T. G. Darton, Esq, Chairman of the Executive Committee of the War Victims' Fund.

The Executive regret that the War Victims' Fund Committee were of opinion that the plan proposed would not carry out the object in view; but they have the satisfaction of recording the offer of that Committee to place their organization at the disposal of this Fund for the purpose of distributing corn and other seeds in the neighbourhood of Metz and in the Meurthe district.

The following is a scheme of distribution proposed in a letter from M. Drouyn de Lhuys, President of the Société des Agriculteurs de France.

TRANSLATION. — Copy of Letter from M. DROUYN DE LHUYS to LORD VERNON, Chairman of the Committee.

St. Heliers, Jersey, 28th Dec., 1870.

Société des Agriculteurs de France Présidence.

MONSIEUR LE PRESIDENT,—It is a matter of much regret to me that I could not be present at the Meeting held at the Salisbury Hotel on the 19th of this month. I have just read with keen interest the report in the newspapers, and it is my heartfelt desire to express to you the sincere gratitude with which the generous resolutions carried at that Meeting have inspired me. The impulse having been given, I feel convinced that the movement will not be arrested until the object has been obtained; the well-known perseverance of your nation being a sufficient guarantee. The English farmer does not abandon his plough in the middle of the furrow. In order to carry out the project in question, two points must be considered. 1st. The appeal for donations in money and in kind, their collection, a bank to receive the money, and warehouses to store the seed. Measures of this nature have already been partially taken, and will eventually be fully carried out in the three

kingdoms by the efficacious initiative of your Committee, assisted by the unanimous and friendly co-operation of the press in Great Britain. 2nd. The organization in France of committees charged to report the special needs of those localities ravaged by the war, and to prepare the basis of an equitable distribution amongst individuals. It would seem that the most practical combination would be to constitute in each commune a committee composed of the Mayor, or his delegate, of the Vicar and the schoolmaster. This Committee should make out a statement, showing the quantity and kind of seed and other requirements necessary for preparing and sowing the land. To this statement should be subjoined the list of names of those peasant-farmers applying for aid, with the extent of their holdings, and the needs of each of them. This statement, properly certified, should be sent to a Committee formed in the chief town of the district, and composed of the Mayor, the Justice of the Peace, the senior Attorney (Town Clerk), the Magistrates of Quarter Sessions, and three members of the Société des Agriculteurs de France, or of the local agricultural society. This Committee would be charged with collating the statements from the Communal Committee, and with certifying and settling the definitive plan of distribution, which plan should be sent as early as possible to the London Committee. The English consuls and the delegates of the English Committees should take part in the deliberations of the Communal Committees and of the District Committees as often as they might consider it desirable. The District Committees, by the intermediary of the respective Mayors, would deliver to each peasant-farmer, whose application should have been registered, a draft signed by the President of the Committee, and indicating, together with the name and address of the applicant, the quantities and the materials to be handed over to him. It remains to determine the places where the objects (seed) should be deposited, and where the drafts should be presented to obtain delivery. This point will have to be arranged by a common understanding, taking due note of the position of hostile troops, the state of the roads, means of transport, &c., &c., &c. Such, Monsieur le Président, are the observations which I have forwarded to France by last post, reserving full power to make such changes as the London Committee might consider necessary. I beg you to receive, Monsieur le Président, the assurance of my distinguished consideration, and of my sentiments of devotion.—(Signed) DROUYN DE LHUYS, President of the Société des Agriculteurs de France, and Honorary Member of the Royal Agricultural Society of England.

The Executive Committee, in order to obtain information as to the requirements of the French peasant-farmers, have prepared a schedule of queries respecting information under the following heads :

AGRICULTURAL REQUIREMENTS OF FRANCE.—1. What are the agricultural features of your district in the following aspects?

A Kinds of grain and other seeds generally used for sowing.

B Kinds deficient at the present time.

C Latest period of spring sowing. (a) spring wheat, if grown; (b) spring beans or peas, if grown; (c) barley; (d) oats; (e) clovers and grasses; (f) turnips and other roots; (g) potatoes; (h) tares and other fodder crops; (i) any other crop extensively grown in the district.

D What means of cultivating the land are at present possessed by the peasant farmers of the district, viz.: (a) by men; (b) by women and children; (c) by horses; (d) by oxen and other animals; (e) by implements.

2. Can seeds for spring sowing be bought in the district or, if near the frontier, at any depôts across it; and, if so, at what price?

3. What means are possessed by the farmers of the district to enable them to purchase seeds?

TRANSPORT.—1. What is the best route from England to the depôt of your district? 2. What are the best means of transport within your district?

DISTRIBUTION.—(See scheme of M. Drouyn de Lhuys above).—1. Is it your opinion that the departmental and communal organization of the district will admit of such a system of distribution being carried out? 2. If so, do you consider that it can be depended upon for protecting the seeds from misapplication? 3. If not, can you suggest any other plan of distribution; and can you favour the Committee by suggesting the names of any influential men, especially agriculturists, in your district, who could be relied upon to carry it out.

These queries have been communicated to Col. Loyd Lindsay, the Chairman of the National Society for Aid to the Sick and Wounded in War, with the following letter:

French Peasant-Farmers' Seed Fund,
Salisbury Hotel, Salisbury Square, E.C.,
January 16th, 1871.

SIR,—The Executive Committee of the French Peasant-farmers' Seed Fund are very desirous of obtaining reliable information as to the gricultural wants of the peasant farmers of France, in those districts through which the contending armies have actually passed. I have, therefore, been requested to ask you, as Chairman of the "National Society for Aid to the Sick and Wounded," to request the agents of that Society to give what information they may possess on the subject, under the heads mentioned in the annexed schedule.

Any suggestions that may occur to the gentlemen who are engaged in administering aid to the sick and wounded, will be thankfully received by the Committee of the French Peasant-farmers' Seed Fund, whose object it is to provide the distressed peasant-farmers with corn and other seeds wherewith to sow their land, and it is hoped that by helping them to save their next harvest, the Committee may in some measure assist in averting the famine which otherwise seems inevitable. I am desired by the Committee to apologize for asking you to make any further demands upon these gentlemen, knowing how very much their time and thoughts must be engrossed by their arduous and painful occupations. The Committee have no desire to interfere with them in the performance of their recognized duties, and in making this application, rely solely on their well-known readiness to lend a helping hand in a good cause whenever an opportunity offers.

I have the honour to be, sir,

Your obedient servant,

Lieut.-Col. Loyd Lindsay, V.C., M.P.,

VERNON.

Chairman of the National Society for Aid to the Sick and Wounded.

The Executive have much pleasure in laying before the General Committee the following reply from Col. Loyd Lindsay:

National Society for Aid to the Sick and Wounded in War.
2, St. Martin's Place, London, W.C.,
January 17th, 1871.

MY LORD,—I have the honour to acknowledge your letter of this day's date. You are anxious to obtain reliable information as to the agricultural wants of the peasant farmers of France; and your committee address themselves to this Society and desire that their agents in France should reply to certain questions which you forward with your letter. I am empowered to say, on the part of this Committee, that it will be a matter of satisfaction to them if their agents abroad can furnish you with the needed information, and in order that the information may be furnished as promptly as possible, I have this day sent letters to the northern district of France, under the management (so far as the Society goes) of Sir Vincent Eyre, and to the district round Tours and Orleans, under charge of Col. Elphinstone and Mr. Lee. I feel sure that the above-named gentlemen will readily devote their leisure to gaining the information which you seek to obtain, and all details which I may receive from them, or from other sources, I will immediately communicate to you.

I have the honour to be, my Lord, your obedient servant,

R. LOYD LINDSAY,

Lieut.-Col. and Chairman of Committee.

The Right Hon. the Lord Vernon,

Chairman of the French Peasant Farmers'

Seed Fund, Salisbury Square.

Lord Vernon has also, on behalf of the Executive Committee, made a similar request to the Editors of London Daily Papers having special correspondents in the devastated districts of France; and the Executive Committee have great satisfaction in stating that their request has been most readily acceded to.

Letters with information and suggestions have also been received from various sources; and the Executive anticipate that much additional and valuable information for their guidance will shortly be in their possession.

The Executive Committee, immediately upon its appointment, considered it of primary importance to ascertain what assistance they could obtain from the French and German

Governments, in order to protect the seeds destined for the French peasant-farmers from military requisitions. Eventually the following letter was addressed by Lord Vernon to the representatives in England of France and the North-German Confederation :

French Peasant-Farmers' Seed Fund,
Salisbury Hotel, Salisbury Square, London, E.C.
January 9th, 1871.

SIR,—I have the honour to inform your Excellency that at a public meeting held at the above address on Monday, 19th December, 1870, it was resolved to appoint a Committee for the purpose of obtaining donations of spring corn and other seeds as well as money subscriptions for their purchase, to enable the distressed French peasant-farmers to sow their land and thus endeavour to avert the famine which otherwise must necessarily follow next year.

At a meeting of the Committee held on Thursday last, the 5th instant, I was requested as Chairman to submit to you the annexed copy of a resolution referring to the distribution of seeds in the districts of France most urgently requiring the assistance.

In commending this resolution to your Excellency's favourable consideration, I beg respectfully to point out the nature of the assistance required. The distribution of seed corn by the agents of the Committee or the authorities of the Departments will be made only in those districts through which the contending armies have actually passed, and the peasant-farmers of which have by the necessities of military operations been deprived of the means wherewith to sow their land. The Committee are therefore desirous that the corn and other seeds shall be exempt from military requirements. In order to facilitate the practical working of such a concession, the Committee will be prepared to adopt any distinctive bag, mark, tie, or stamp, or any other regulation that your Government may direct.

You will allow me to point out the assistance I have indicated, to be effectual must be rendered immediately. I feel confident, therefore, that your Excellency will represent to your Government the desirability of giving such facilities as may be within their power, to enable the seeds to be conveyed to their destination, and applied to the sole object of sowing the land.

I have the honour to be,

Your obedient servant,

VERNON, Chairman.

The Executive Committee have much gratification in communicating the following telegram, from the Minister of the Interior of France, addressed to the Chargé d'Affaires of France in London, and forwarded by him to the chairman of the Committee :

Bordeaux, Jan. 22nd, 1871.

[TRANSLATION.]

In reply to your telegram of the 14th January, grain intended for seed can be sent to one of our ports; Cherbourg or Brest, or perhaps to Dunkirk. The expenses of transport will be readily defrayed by the Minister of Agriculture and Commerce, should the English Committee desire it. The grain addressed to this Minister will be deposited in the naval magazines until it be possible to transmit it to its destination; it will be exempt from any requisition. Moreover, advice will be given of its destination to the different authorities who have the right of requisition, so that no error can arise. Kindly express to the English Committee the sentiments of gratitude felt by the Government.

The Executive have taken the following means of bringing the objects of the fund under the attention of English agriculturists and the general public: Advertisements and paragraphs have appeared in the newspapers. A letter signed by Lord Vernon, as Chairman, has been addressed to numerous landlords and others connected with the landed interest throughout England, asking for donations in seeds or money, and also that they would use their influence in their own districts. A letter containing printed subscription forms and direction labels for packages has been addressed to every member of the Royal Agricultural Society of England, the Smithfield Club, Central Farmers' Club, and other agricultural associations. Placards have also been prepared for posting in various corn exchanges and other suitable places, and it is hoped that all the above steps, in conjunction with the county committees, either organized already or in course of formation, will lead to a satisfactory result.

The money donations hitherto promised amount to £ of which the sum of £ has already been deposited with the London and County Bank, which will receive donations at all its branches. Also the following donations in grain and seeds have been promised :

The expenditure in advertising, stationery, clerk's time, postage, &c., up to the present time has been £ leaving the balance now at the bankers £

The Executive have the satisfaction of acknowledging the kindness of the clergy who have already had collections at their churches, and they have also received the proceeds of concerts which have been given in aid of the fund.

The Executive have communicated with the various railway companies, in the hope of obtaining free transit for contributions of grain on their respective lines. They have the satisfaction of reporting that the Great Eastern Railway has handsomely granted free transport of Seed addressed to the care of Mr. Odams, at Plaistow Wharf, near Victoria Docks, and of such as may be sent by their Steamers from Harwich *via* Antwerp; and that the South Eastern, and the London, Chatham, and Dover Railways will combine to deliver to France, free of charge, 100 tons weight of Seeds or Corn. The Executive are still in communication with the other railway companies, and trust that some further concessions may eventually be made in favour of the Fund.

Associations with similar objects having been formed in Scotland and Ireland, it was resolved to communicate to each of these what progress had been made by the English Committee, and to ask what steps the Scotch and Irish Committees propose to take, so that the funds may not overlap. The following letter has therefore been addressed to the Chairman of each committee :

French Peasant Farmers' Seed Fund,

Salisbury Hotel, Salisbury-square, E.C., Jan., 1871.

SIR,—I am desired by the London Executive Committee of the French Peasant Farmers' Seed Fund to communicate to you the enclosed copies of letters from the French Minister of the Interior and M. Drouyn de Lhuys* in reference to the question of distributing grain and other seeds to the distressed peasant-farmers of France.

The Committee have communicated with the French and German Ambassadors, in the hope that some arrangement may be made for the neutralization of the seed sent for the use of the peasant-farmers, and they are sanguine that some concession of that nature may be obtained; but owing to the difficulty of communication between London and Versailles, and the length of time required to perform the journey from London to Bordeaux, no answer has yet been received by the Committee from either Government.

Feeling the want of accurate information as to the agricultural necessities of the districts of France through which the armies have actually passed; the means of communication to and within those districts; the state of the communal, departmental, and other legislative or administrative organizations; and the nature of the resources still possessed by the peasant farmers; the Committee are endeavouring to obtain these data through the agency of the gentlemen who are administering the funds of the "National Society for Aid to the Sick and Wounded;" and they have the liveliest satisfaction in acknowledging the readiness and heartiness with which the Committee of that Society have undertaken to further this scheme, by forwarding to their agents the schedule of questions.†

Communications have been made to the Committee of the War Victims' Fund with the desire of promoting cordial and hearty co-operation with them, and I am able to state that they have announced their readiness to distribute any corn or other seeds that the Committee may think fit to place at their disposal.

The Committee are also attempting to make their sources of information as complete as possible, by enlisting the sympathies of the editors of the several London newspapers, who have been requested to forward a copy of the schedule of questions already mentioned to each of their correspondents at the head-quarters of the different French and German armies.

The London Executive Committee have desired me to express their hope that this statement of their proceedings, in anticipation of the difficult task of distribution of grain and seeds that lies before them, may be of use to the Committee

over which you preside; and they have requested me to state that they will be very glad to receive any information which you may have acquired, and to consider any scheme of distribution which you may propose to adopt. Their desire is to place themselves in such intimate relations with the Committees of Scotland and Ireland that there shall be economy in the labour of organization, efficiency in the administration of aid to the peasant-farmers, and at the same time due regard to the attainment of the object for which the seeds and money have been given.

While the Committee have thus devoted considerable attention to the organization of a workable scheme of distribution, they have not forgotten the more pressing duty of collecting donations of seeds and money; and the parcel of documents will inform you fully of the means they have adopted for this purpose.

Assuring you that it will at all times be a source of satisfaction to the London Committee both to impart and to receive information as to the progress of the movement,

I have the honour to be, sir,

Your most obedient servant,

(Signed)

VERNON.

The Executive Committee, having thus reported the steps they have taken and the progress they have made up to the present time, consider it necessary to ask the General Committee for instructions relative to the period at which distribution shall commence, and the means to be employed in carrying it into effect. The question of agency for collecting information or superintending distribution has been under the constant consideration of the Executive, but they have not come to a decision on the subject; and in order to invite discussion, the Treasurer of the Fund has given notice of a motion on the subject to be brought forward to-day. The Executive have had constantly in view the great difficulties by which the question of distribution is surrounded, amidst circumstances ever varying and the vicissitudes of war. An entire postponement of distribution until the close of the war has been strenuously advocated, it being considered that there is no certainty of the donations being applied to their legitimate purpose during the continuance of hostilities. This feeling has taken such firm hold in some districts, that subscriptions are partially withheld, and the work of collection therefore delayed. On the other hand, it has been urged that the work of collection should be vigorously prosecuted, and the organization of a scheme of distribution prepared in anticipation of the close of the war, or such other time as the General Committee may determine. Otherwise it will be impossible for the land to be sown during the coming spring, for the next harvest in the devastated districts to be saved, and for the distressed French peasant-farmer to be rescued from the famine which it is our object to avert. It appears, therefore, to the Executive that, as soon as sufficient supplies are at command, three courses are open to the decision of the General Committee:

1st. To commence distributing as soon as the necessary arrangements can be completed; or, 2nd. To have a partial and experimental distribution which might relieve some of the most urgent needs, and be the means of obtaining valuable data on which to found future operations; or, 3rd. To be in readiness for, but to postpone the distribution entirely until, the termination of the War.

In conclusion, the Executive anticipate that whichever course the General Committee determine upon, they will fully recognize the principle that no distribution shall be made to any district until the Executive have received such guarantees from both the contending Powers as shall satisfactorily indicate that the contributions forwarded shall be held free from requisition, and be duly devoted to the purposes for which they have been subscribed.

By order of the Executive Committee,

B. T. BRANDRETH GIBBS,

H. M. JENKINS,

W. H. DELANO,

} Hon. Secs.

The CHAIRMAN said: Gentlemen, the first thing that will occur to anyone in reading the Report is that circumstances connected with the vicissitudes of the war have rendered the Report obsolete, and in fact out of date. While this makes the Report of somewhat less value, I am quite sure we shall congratulate ourselves, and still more that country which has been desolated by war, that the cloud which has so long hung

over France is rolling back, and the silver lining gradually appearing (cheers). I trust that the Report will at any rate convince you that we have not been negligent of the task assigned to us. We were limited, as you probably remember, to certain well-defined duties, and we have kept entirely within our limits. We have not officially in any way approached the subject of distribution; but, in order to be prepared for a change of circumstances which we thought might occur, and which, happily, now seems likely to occur, we have made some slight attempt at a general inquiry as to the circumstances of various districts of France, so far as we could get at them (Hear, hear). Not being allowed to enter into the question of distribution, and being, moreover, very much restricted as regards means, we did not feel justified in employing any agent to travel abroad and collect information for our guidance; and it certainly becomes me on this occasion to recognize, as I do most heartily, the cordial and prompt assistance rendered to us by Col. Loyd Lindsay, acting on behalf of the National Society, and by various members of the Press whom I addressed personally or by letter, and who, notwithstanding the arduous character of the professional labours in which they are engaged, did not shrink from the additional duties entailed upon them by participation in our object (cheers). I must also acknowledge the courtesy with which I was received by the representatives of the two hostile Governments in this country. Those gentlemen were placed in a very difficult position with regard to the administration of our Fund; and I must say that there has been an evident desire on the part of both Governments to afford us every assistance that we could reasonably expect (cheers). I have now referred to our chief preliminary steps. The first really practical step that we took towards securing a proper organisation was to address ourselves to the various associations at present engaged in alleviating the miseries which prevail in France. I must refer for a moment to the paragraph in the Report which refers to the War Victims' Fund. I do not wish it to be supposed that the difficulties which are there hinted at as existing between that fund and our own are such as will not be easily removed (Hear, hear). I am convinced, from the communications which have passed between myself personally, and gentlemen connected with the War Victims' Fund, that, both Committees being desirous of doing what will most conduce to the effectual carrying out of the work which they have in hand, all difficulties connected with their different organisations will, after proper consultation, disappear (cheers). The War Victims' Fund is represented here to-day by Mr. Bellows, whose letters from the Metz district are well known to the public, and I am quite sure that that gentleman will confirm what I have just said. One of the greatest difficulties which we have to face I will now mention. It must be perfectly evident to all who have served on the Executive Committee that, while there is very deep heart-felt sympathy for the French peasantry under their present distress, the question of affording relief is viewed in a very partial way (Hear, hear). People who have been appealed to for aid have remarked that they did not see how seed-corn could reach the various districts where it was required without being subject to requisition. Two objections, in fact, have been raised, one being, "How can you guarantee that the seed-corn sent will not be eaten by Uhlan horses?" The other, "How can you guarantee that the man who sows shall also reap?" The Report shows that the Committee have done everything in their power to obtain facilities from the two Governments for neutralising the seed and freeing it from military requisition; but it is impossible to guarantee that the person who sows shall also reap. The altered circumstances of the last few days have, however, in my opinion, removed all such difficulties (Hear, hear and cheers). We have now the *littera scripta* of the French Government, who offer such facilities as may, I think, fairly form the basis of a scheme for the transport of seed-corn, provided the distribution of it is decided upon to-day. In our dealing with this question we shall have to consider first of all, whether the distribution is to take place, and, secondly, if the distribution is to take place, in what way it is to be carried out. You will observe that Monsieur Drouyn de Lhuys has in a letter propounded a scheme of distribution, through the agency of the mayors of arrondissements; and if that scheme be adopted, we shall then have to consider whether

we shall employ any controlling agency from home. I would suggest that before separating to-day you should give distinct directions to the executive as to what course you wish them to adopt. Your instructions at the last meeting were very definite; we have known exactly how far to go; and, having decided, if you do decide, on this occasion, that distribution shall take place, you will, I hope, distinctly define the future powers of the executive. If you placed the control of the distribution in the hands of the executive, I feel sure, from my observation of the manner in which my colleagues have hitherto performed their duties, you would have no cause to regret having taken such a step. In conclusion, I cannot help expressing my earnest hope—a hope which is I am sure participated in by every one present—that there is a better future for France than could have been lately anticipated (cheers); and if we in England should be the means of immediately—and it must be immediately (Hear, hear)—relieving a pressing necessity which is no doubt weighing down the spirits of hundreds of people in France, the result will be of the greatest international importance, and we shall thus have taken one of the greatest steps that possibly could be taken to cement permanently the bonds of friendship between the two countries (cheers).

The Earl of AIRLIE said he felt great pleasure in moving the adoption of the Report. It must be a source of great satisfaction to them all that so great a change had just taken place in the aspect of affairs in France, and that there was now a prospect of peace, by which the operations of that Committee would be greatly facilitated. He trusted that there would be such communication between the Scotch and Irish Societies in reference to the object that the three bodies would act harmoniously, and there would be unity in the administration of their respective funds (Hear, hear). With regard to what the chairman had said about the apprehension of some persons that the grain sent out might be eaten by the horses of Uhlans, he would observe, and it was well known that in many cases seed-grain had been steeped in a poisonous solution. The Scotch Society had recommended that the grain destined for France should be subjected to that process, and the adoption of that course would be a guarantee for its being used only for the purpose for which it was intended (Hear, hear).

Captain TALBOT, in seconding the motion, said that if an immediate distribution of seeds did not take place, the object of the Committee would be entirely lost, and urged that the Committee should be invested with full powers as regarded the mode of carrying out the object.

The motion was then passed unanimously.

Mr. CAIRD said he had been requested by Mr. James Howard, M.P., who was prevented by indisposition from being present, to read a statement which he had forwarded. He would now perform that task, premising that he thought it was not improbable that the great change which had just taken place in France would have led to an alteration in Mr. Howard's view. Mr. Caird then read a paper, in which Mr. Howard deprecated the Committee's waiting until the war was over before proceeding to distribute seed-corn in France, and urged that the employment of an agent of the Committee, on the spot, was indispensable to the proper carrying out of the object. Mr. Caird went on to say that, in accordance with this view, Mr. Howard recommended the adoption by the meeting of the following resolution: "That it is desirable to secure the services of an agent to go to France to aid in the distribution of the Committee." Mr. Caird said he did not concur in that view, nor did he think Mr. Howard himself would adhere to it if he were present. There was now a prospect of the termination of the war within three weeks; and, in his opinion, if the war ended within that time the best course would be for the Ministry of Agriculture in France to make arrangements by which such seeds as were collected would be distributed in the districts where they were most required. The Ministry of Agriculture was, it should be remembered, a separate department of the Government, having ramifications all over the country, and he did not think it was possible for the Committee to devise any instrumentality which would answer the purpose so well. With all deference to the Chairman, he thought that to send out anybody from this country to make inquiries would be almost like throwing money away. If they did their utmost in this country to supply what all felt to be a great and imme-

diate necessity—if they endeavoured to obtain from the agriculturists of this land (landed proprietors and farmers) contributions in money and in kind, they would have performed their part; and it would remain for the Government of France, which would now, it was to be hoped, be enabled to act with perfect freedom in the matter, to distribute that which had been supplied. He was sorry that he could not propose a motion suggested by Mr. Howard, but he believed that had that gentleman been present he would now have taken the same view of the matter as he (Mr. Caird) had expressed.

Mr. H. M. JENKINS said he believed that Mr. Howard's paper was sent up with a view to the resolution of which he had given notice being proposed.

Mr. CAIRD said: Well, he could not agree with him. Having sat on the Executive during the whole arrangement of affairs up to that time, and having witnessed the earnestness with which the noble Chairman and others had directed their attention to the object, he felt the utmost confidence, as he believed the public also would; and whatever might be contributed would be dispersed and distributed in such a manner as would result in the greatest possible amount of benefit to their distressed fellow-agriculturists on the other side of the water (Hear, hear). He should therefore propose the following resolution: "That, considering the armistice which has just taken place, and the prospect of an early peace, the committee, recognising the advantage of making an early beginning, entrust to the Executive all the arrangements they may deem most expedient for the distribution of seed, trusting that the instrumentality of the French Minister of Agriculture may be utilised in so far as may be found possible."

Capt. TALBOT said he should be happy to propose the resolution suggested by Mr. James Howard, viz., "That it is desirable to secure the services of an agent to go to France to aid in the distribution of the Committee."

Mr. J. R. ROBINSON said he had great pleasure in seconding it. He thought that the Executive Committee should not be trammelled one way or the other, but the question should at all events be left an open one. Experience had shown that it was impossible properly to administer relief generally without having some agent on the spot who could make inquiries; and although the case of the peasant farmers differed from other cases, yet, in his opinion, it would be a great advantage to employ some one from home who would go from district to district, and from time to time report to the Committee such facts as fell under his observation (Hear, hear). Mr. Caird had spoken as if the Government of France were in full operation. It was difficult to say whether there was any Ministry of Agriculture at present, and even if there were, it could not perform its duties as in ordinary times (Hear, hear). He had that day received a letter from Mr. Bullock, who, as was well known, had spent a great deal of time, and administered a large amount of relief in some of the districts for which the corn-seed was intended. In writing from Levignion on the 24th of January, that gentleman seemed quite appalled by the scenes of desolation which he had just witnessed. He said, "I have at last awakened from a horrid nightmare of gutted houses, broken windows, stove-in doors, shutters wrenched off their hinges, torn-up floors, cupboards turned inside out, bits of carpets, tassels scattered about heedlessly; ruins of chairs, tables, and mirrors; untold heaps of letters and papers littered all over landings, and staircases; lawns trampled into ploughed fields, garden fences broken down—in short, utter desolation everywhere." "To have seen with one's own eyes," he went on to say, "this region, which was once an earthly paradise, literally converted into a howling wilderness, is a fearful experience to have gone through, and cannot fail to leave an ineffaceable impression on the memory." Again he said, "When the siege is over, all—rich and poor alike—will come to bare walls, and every kind of ruin staring them in the face. There will be so much to be done—such overwhelming need of every kind of assistance—that it might appear the wiser course not to attempt to do anything at all. But that is proverbially the case when one attempts to grapple with a gigantic evil." What applied more especially to the great question was the following passage: "I have ascertained, in the course of the last few days, that large quantities of 'Blé de Mars,' i. e., wheat for spring sowing, oats, vetch, lucerne, trefoil, and every kind of grass-seed will be urgently needed throughout the neighbourhood, and especially on the northern side of Paris, to be delivered, if possible, within two months from the present

data. Owing to the impossibility of procuring coal to keep the beetroot sugar factories going, and from the scarcity of hands, the beetroot crop has in many instances been left to rot in the ground, and, in consequence of the unusual severity of the weather, those of the fields which had been sown with wheat in the autumn are now perfectly yellow, into which tint the tender green of the growing crop has been nipped by the frost." Those were facts which seemed to him (Mr. Robinson) to call upon the Committee for speedy and energetic action (cheers).

Mr. AVELING said he felt great pleasure in seconding Mr. Caird's proposal. In considering the question of agency it should be recollected that the districts of France in which seed was required comprised nearly one-fifth of the whole country, or twenty-five-and-a-half millions of acres. Looking at the enormous extent of area to be dealt with, it seemed impossible that an agent of that Committee could carry out the object. The territory to be covered was so large, that to embrace it was like drawing a line from Chester to Lincoln on one side and from the Land's End to the North Foreland on the other, and it would be impossible for any single agent to visit such an immense area.

Mr. H. M. JENKINS hoped Mr. Caird would not press his motion as an amendment to that of Mr. Howard, as they were not necessarily opposed to each other, but rather parallel motions. It was perfectly possible, indeed probable, that the Committee would find that they must distribute the seed through the medium of the French Government, and yet at the same time feel it to be desirable to send an agent to France. Therefore he would ask Mr. Caird to propose his motion as an independent one, leaving that of Mr. Howard to be discussed on its own merits. As regarded the latter motion, even supposing the French Government were disposed to give them all the assistance they might require in the work of distribution, still contributions might come in so largely as to make it desirable to send out not merely one agent, but half-a-dozen (Hear, hear). He would suggest that the motion of Mr. Howard should be amended as follows: "That the Executive Committee be empowered to appoint an agent or agents, at the discretion of the Executive, to aid in the distribution of the Committee." Although the French Ministry of Agriculture might in ordinary times be exceedingly useful, it was now very much disorganized through the war, and he did not think they ought to expect much assistance from it; but he had no doubt that they would be enabled to obtain a considerable amount of information for their guidance from the provincial chambers of agriculture, and the local agricultural societies, more especially those which were connected with the National Society, of which M. Drouyn de Lhuys was the President. Having obtained a large amount of subscriptions from the public, their first duty was to distribute the funds placed at their disposal in a manner which would satisfy their own consciences; but they had another duty to perform, and that was to convince those who had subscribed their money that they had done the best that they possibly could do with it (Hear, hear); and from that point of view it seemed to him highly desirable that the Committee should have one agent at least in France to aid in the distribution and to supply information as to the manner in which it was effected, so that the Committee would be able to give the subscribers some kind of report of what had been done with their money. Mr. Caird and Mr. Aveling seemed to have fallen into a slight error as to the function of the agent whom Mr. Howard desired to have employed. That function would be rather to obtain information and strengthen the hands of those who distributed than to distribute himself. Again he would express a hope that Mr. Caird would propose his motion as a separate one and not as an amendment to Mr. Howard's.

Mr. CAIRD said that as he desired harmony he would adopt that suggestion.

Mr. Caird's motion was then withdrawn for the time, and Mr. Howard's as proposed to be amended by Mr. Jenkins took its place.

The CHAIRMAN said that question of agency was the only ground of difference in the Committee, the opinions of the members having been pretty evenly balanced upon it, and he believed that Mr. Howard's only object then was to obtain for the general Committee power to employ an agency of their own, if that was thought desirable (Hear, hear). He (the Chairman)

had taken some trouble to consult gentlemen who had been in the distressed districts. Among them was Capt. Goodenough, who was familiar with the Metz district, and in the opinion of that gentleman the Committee could not, in the present disorganised state of France, depend entirely upon French organization, which, under other circumstances, would be perfect; and it would be necessary for them to have persons here and there to supervise the distribution, and act as a medium of communication with those whom they represented in London. He should be very glad to see the question decided that day one way or other; and he was of opinion that the powers of the Committee ought not to be restricted to working without agency. He thought it was very desirable that Mr. Jenkins's modified proposal should be adopted by the meeting.

Mr. J. N. LEE, in seconding the motion, observed that a large portion of the distressed district which had suffered most was entirely in the hands of the German authorities, and some of it would probably remain so; and it would not be well, therefore, to place the distribution of seed entirely in the hands of the French Government (Hear, hear).

Mr. BELLOWS, a member of the Committee of the War Victims' Fund, said he should be very sorry to see adopted any motion prohibiting the employment of an agent of the Committee, as some check was absolutely necessary to prevent loose or wasteful distribution. If seed were distributed without any check, for every shilling of value threepence probably would be wasted (Hear, hear). It was more important to watch the spending of the money than the collecting of it. The Committee which he represented had spent an immense amount of money in the neighbourhood of Metz, and it was only by constant hard work and the exercise of great caution that they could avoid a great deal of waste. Unchecked distribution would work in this way. If the mayor of each commune had a quantity of seed to distribute he had to draw a line between those who could afford to pay and those who could not. When a man was known not to be well off, or to be nearly starving there was no difficulty in the matter; but there was always a sort of boundary between those who were known to be well off and those who were known to be badly off, and the mayor being liable to censure if he passed any person over, the result was that in many cases every man was put down (Hear, hear). It should be borne in mind that the Governor of Lorraine was not a Frenchman but a German, and if seed-corn were sent to him there would be a very unpleasant feeling, and many peasant farmers might hardly consent to accept any. Some persons seemed to have thought that the War Victims' Fund and that fund were in some degree acting in opposition to each other. That was not the case; and if the Committee of the Peasant Farmers' Seed Fund should find that they had any surplus seed that they could spare for Metz, his own Committee, would be very happy to undertake its distribution. That very week his Committee had sent out 1,000 quarters of seed-oats to begin with (cheers).

The motion originated by Mr. JAS. HOWARD, as proposed to be amended by Mr. JENKINS, was then put, and adopted unanimously.

Mr. CAIRD, after having renewed his proposal, said he wished to leave it to the Executive Committee to adopt such a course of proceedings as, after due inquiry and watching the course of events, they might think most advantageous. Looking at the extent of the suffering in France, and the probable extent of their means of alleviating it, he was disposed to think that the best course the Executive Committee can pursue was to give a portion of what they had to distribute to the Fund represented by Mr. Bellows, which already occupied an important position in the North of France, and gained the confidence of the people, and to enter itself into a somewhat different field, say that lying to the south of Paris, which would no doubt absorb all the seed that they would be able to distribute, using for that purpose, as far as possible, the instrumentality of the Ministry of Agriculture. He thought that in that way the two societies would most effectually promote the end in view, while it would relieve them from their difficulty with respect to Lorraine. He had no other object in making his motion than to utilize the means at their disposal to the utmost; and he still thought that if Mr. Howard were present he would concur in his view.

Mr. AVELING, in seconding the resolution, said, notwithstanding the explanations which had been given, he did not

see how the distribution could be placed in better hands than the French Ministry of Agriculture. If England were placed in a similar position to France, it would be impossible for a hundred French agents to distribute corn-seed in England in a satisfactory manner; but if it were entrusted to the Society which the Chairman represented there might be a proper distribution.

Mr. AMOS said the great object was, of course, to do that which would be best on the whole. They all knew that although the French Ministry of Agriculture was hampered, the French Société d'Agriculture was in a more independent position. The Committee had, in that society, many warm friends from whom it could obtain assistance.

Mr. PILTER said, having lived for 30 years in France, he could not agree with Mr. Caird that the Ministry of Agriculture would be a good medium of distribution. That department was tied up, as it were, with red tapeism; and, if a cargo of seed were wanted at Havre it might find its way to Nantes, and *vice versa*. If it were proposed to entrust the work of distribution to the Society represented by Mons. Drouyn de Lhuys, he should not object, but he strongly deprecated reliance on the Ministry of Agriculture.

Mr. W. H. DELANO said that any agent would, he believed, go out at his own expense—an observation in which he was supported by Mr. Jenkins.

Mr. PILTER remarked that the Committee had only four weeks for its work. The seed must be in France within four weeks (Hear, hear).

The CHAIRMAN: What district do you consider the first in point of season?

Mr. PILTER replied: The Orleans district, which has unfortunately been in the occupation of the hostile armies. That is the great corn district of France. The land from Chartres to Orleans and from Orleans to Paris is almost entirely in wheat. Next to that district come the north-east and the east.

Mr. J. N. LEE: Was not the Orleans district seeded in the autumn?

Mr. PILTER: No. The armies have been fighting there ever since September.

The resolution was then agreed to.

On the motion of Mr. Sartoris, seconded by Colonel Wilson,

a vote of thanks was given to the daily and the agricultural press for the assistance which it had rendered to the object.

Mr. J. R. ROBINSON said he should be glad to know whether an answer had been received to the inquiry addressed to the representative in England of the North German Confederation.

The CHAIRMAN replied that no official answer had been received, but he felt certain that Count Bernstorff would obtain one as soon as circumstances would permit. His Excellency received him with the greatest kindness.

A vote of thanks was then given to the CHAIRMAN, who, after returning thanks, observed that on the following day the Committee would issue an address to all the Chairmen of a Boards of Guardians, requesting them to put themselves in communication with their respective parishes in furtherance of the object.

Additional subscriptions, amounting in the aggregate to £400, were announced before the meeting separated.

Lord Vernon, the chairman of the committee of this fund, Mr. Caird, C.B., Mr. Odams, and Mr. H. M. Jenkins (hon. secretary, met an influential committee of the Corn Exchange on Thursday last, at 12 o'clock. Mr. Millis Coventry (of the firm of Messrs. Coventry, Sheppard, and Co.) was called to the chair, and the following resolutions were passed unanimously:

1. That a subscription list be opened, and cash received be paid into the London and County Bank in the name of the French Peasant Farmers' Seed Fund, James Howard, M.P., Treasurer.

2. That the Members of the Committee connected with the corn market are willing, free of commission, to purchase such articles as may be required.

3. That the offer of Mr. Pavey to inform the General Committee of suitable agents be accepted.

4. That this Committee be amalgamated with the General Committee, and three members put on the Executive.

The following gentlemen were therefore elected to serve on the Executive Committee of the French Peasant Farmers' Seed Fund: Mr. Harris, Mr. Coventry, Mr. Pavey.

A subscription list was commenced, and it was understood that the result would be made known after Friday's market.

THE GAME LAWS.—HARES AND RABBITS.

At a special meeting of the Scottish Chamber of Agriculture held in Edinburgh, Mr. Scot-Skirving, President, in the chair, the chief business was to consider the recommendations of the directors on the subject of the game-laws.

The SECRETARY laid the following communications on the table:

Mr. M'Combie, M.P., Aberdeen, writes: I regret that I am unable to attend the meeting of the Chamber of Agriculture on the 25th instant, when a resolution is to be proposed for acceptance of the meeting—viz., "That hares and rabbits should be dealt with by removing them from the game list, and giving the occupier of the land, or any resident on the farm having his authority, the inalienable right to kill hares and rabbits on the land so occupied by him." I presume that this proposed measure is only put forward as an instalment of what is expected to follow—viz., the total repeal of the game-laws. Upon this supposition I will support the resolution if it is brought forward in Parliament; but in my opinion the total repeal of the game-laws will be the only satisfactory settlement of the question.

Mr. Cowper, a member, says: I have received your circular, dated 2nd, intimating a special general meeting of the Chamber for 25th instant. In case I may not be present at the meeting, I think it right to intimate that I concur heartily in the resolutions adopted by the directors at their special meeting held on 14th ultimo. The course now taken by the directors has always appeared to me to point to the only remedy suited to the peculiar circumstances of the case as regards the game-laws; and with a view to strengthen their hands in high places, I hope that the members of the Chamber

may be unanimous in adopting these resolutions. Every phase of the farmer's claims for reform has been so often and thoroughly discussed of late, that I am unwilling to enter upon the subject again; but the very extraordinary speech recently delivered by the present Lord Advocate (Mr. Young) as the mouth-piece of a Liberal Government must be my excuse for troubling you with the following observations. Mr. Young's sole argument against the redress of the farmers' grievances is based upon the assumption that landlords and tenants are really and truly both willing parties to existing contracts of lease. Now, in a legal sense, they undoubtedly are consenters, otherwise both parties would not be found to subscribe them; but, in any other sense, they are not consenters, as every member of the Chamber can, with his own heart, testify. While the tenants had no voice in returning representatives to Parliament, the landlords made the existing laws, under which landlord and tenant are not upon an equality in making contracts of lease. I quite agree with the Lord Advocate that as soon as that inequality is removed, and landlord and tenant are placed upon a common platform in this respect, the farmers are quite fit to make their own bargains. This inequality results chiefly from the operation of the law of hypothec and the game-laws. Let the Legislature remove these remnants of the protective and class system, and restore that equality which is deranged, and the interests of landlord and tenant will again become identical. The position of the farmers as voluntary agents to existing contracts of lease under the existing laws reminds one forcibly of a story of Highland volunteers during the Scotch Rebellion. When King George's representative, on meeting a certain laird, and

asking him where his promised volunteers were, received for answer that they were tied with ropes in the barn. Of all businesses in this country the farmer's is the most overstocked, and, probably, for the capital employed, the least lucrative. Under the existing circumstances, a farmer must either make a contract of lease upon the landlord's terms, or cease to be a farmer, or expatriate himself. It is best to look the subject in the face. If he cease to be a farmer, he is, as a rule, fit for nothing else; and, while idle, he cannot sustain himself and his family in their former social position on the interest of his capital—probably bank interest on deposits for safety—as he cannot manage money in other businesses without the probability of losing it. Then it comes to this—he must have a farm on such terms as he can get one, or expatriate himself. Is Government prepared to see the best bone and sinew of this country forced to consider this alternative rather than remove those restrictions affecting the commerce of land, which were long ago removed with so much advantage from every other article of commerce? Reading the Lord Advocate's recent speech as the organ of Her Majesty's Government, I am sorry to be obliged to answer this question in the affirmative. This is very sad. But is the country prepared for this alternative? Are the farmers themselves prepared for this alternative? I am of opinion that the answer to both questions depends now upon the action of the farmers themselves. Let them unite from landsend to landsend as one man. Let them agree upon the true remedies to correct the existing inequality in the law betwixt landlord and tenant, and enforce them through *true* representatives in Parliament, to be chosen by themselves without reference to political creeds. If the farmers act thus, the country will be only too happy to help them. This is a crisis in the history of the British farmer, and I hope he will allow me in all sincerity to remind him, through you, that God helps those who help themselves aright.

A member in Caithness-shire writes: As I cannot be present at your meeting, I write to say that personally I would have preferred Mr. Loch's Bill. If, however, the Chamber is unanimous in adopting the second proposal, I will acquiesce, as I am well aware of the serious loss which the tenant-farmer sustains by the ravages of hares and rabbits on his corn and turnip crops.

Another member in Caithness-shire writes: There can be no doubt but that the deletion of hares and rabbits from the game list would be a great improvement, as it is the beginning of the end; but I also strongly think that the time is past when anything less than the total abolition of the game-laws will satisfy either farmers or the public. Unprotected by statute, by all means let the landlord have full value for what his land can produce, game included, but it cannot be too soon understood that when he sells the use of it he parts with the power of life and death of every animal thereon. One tenant and one interest is certainly quite enough on one farm.

A member in Ross-shire writes: A farm is now letting; the conditions in two points are as follow. In event of abolition of game-laws, tenant to quit in six months thereafter. In the event of abolition of the law of hypothec, terms of payment of rent to be brought forward twelve months. Please to state the bare fact on the 25th.

A member in Aberdeenshire writes: As I find it impossible for me to attend the meeting of the Chamber on the 25th current, when the game question to be discussed, I crave the indulgence of the Chamber, while I briefly state my reasons for dissenting from the resolutions of the directors in proposing a modification of the game-laws; also my humble opinion as to the only satisfactory mode of dealing with this imperial question, viz., total repeal of all statutes for the protection of wild animals (Mr. Lowe's gun-tax included), and my reasons for that opinion. I. Objections to the Proposals of the Directors. 1. The modification of the game-laws proposed by the Directors of the Chamber, if adopted by the Legislature, would be the restoration of a very small modicum of the tenants' rights regarding the protection of their property of which the game-laws unjustly deprive them; while even of this, they in most cases would be deprived by legal ingenuity at the termination of leases now running. But although it were possible to maintain the right, it could be beneficial to only one class of tenants, and that class the least in need of any change in the game-laws, those resident in closely-cultivated districts with little or no cover, and those resident on estates where game is

not much preserved. In such situations tenants of opulence and independence could afford to avail themselves of the boon; but the numerous class of tenants in districts where game is strictly preserved and cover abundant, who are not in a position like the former class to assert their rights, even although free by their leases to do so, could gain no sensible advantage, neither would the proposed change in the least alleviate the oppression of a very numerous third class of farmers whose losses arise from grouse, pheasants, roe, and red deer. 2. Even if the proposed change should prove an effectual remedy to low-country farmers, it would in no degree benefit the upland and Highland tenantry, whose loss arises from winged game and deer; but, on the contrary, it would aggravate the evil inasmuch as it would not put a stop to game-preservation, but would narrow its area, thereby increasing competition for shootings, making the preservation of game more strict, and the burden on the tenants more grievous; while it would be unjust to low-country proprietors, depriving them of all means of sport on their own estates except partridges; while, on the other hand, it would be giving an unfair advantage to Highland proprietors, by giving them a sort of premium in the shape of additional game rents in consequence of the monopoly in sport created by the proposed change. 3. Although the proposed change should prove effectual as to hares and rabbits, winged game being still abundant, and poachers being equally expert in capturing the latter, as the former class of animals, with less risk of detection and better remuneration, no social or moral reformation would flow from it; there would be no diminution in the number of poachers or breakers of the law; and past experience testifies that increased stringency in the law has failed to diminish the evils attendant on poaching, or to diminish the number of poachers. 4. While the legislative sanction of "inalienable rights" would in effect prove abortive for good, the claim of such rights has increased, and intensified opposition to game-law reform, both in and out of Parliament, by its proposed seeming interference with the rights of property; whereas, if the opinions expressed at game-law meetings in West Aberdeenshire by farmers on strictly preserved estates be a fair criterion of the views of tenants on such estates throughout Scotland, it has failed in securing the support of that very numerous class of farmers, and the class which above all others requires at the hand of the Legislature relief from the grievous injustice and oppression under which it labours. The opinions expressed both at Aberdeen and Birmingham testify that the town populations will not support such changes as the Directors indicate, and the agitation of the subject during the last few years shows but too clearly that, without the co-operation of all classes, the day is distant when the country will be freed from the oppressive system of game-preservation, with all its concomitant evils. II. Reasons for the total repeal of the game-laws. 1. The repeal of the game-laws would not only free the occupiers of the soil (who are not possessed of a "ploughgate of land in heritage") from the statutory impediments which at present prevent them from protecting their property (irrespective of any game clauses in leases) from wild animals, but it would also entirely remove from the proprietors all grounds for imputations to which they are at present liable, that being encouraged by the law they appropriate through a certain class of wild animals, what in justice belongs not to themselves, but to their tenants; and whatever bitterness may have arisen between the owners and the occupiers of the soil in consequence of the existing state of matters as to game, would very speedily pass away. 2. If statutory protection to wild animals were removed, their numbers would be very greatly reduced, for the two reasons: (1.) As soon as tenants, and others permitted by them, were free to appropriate these animals for their own use, the proprietors would discontinue the expense they necessarily incur in their preservation, seeing they could no longer be the sole possessors of them; hence a great reduction of gamekeepers and watchers. (2.) A rapid increase in the number of carnivorous animals that feed on game would be the result of a diminution of game protectors, and as soon as the equilibrium of Nature was established no preponderance of any one class of animals could long exist. 3. A reduction in the number of game would be speedily followed by so great a diminution of game rents, as no longer to offer any inducement to proprietors to devote large portions of their estates to the feeding of wild animals exclusively; hence they would see the advantage of

letting these parts of their properties for agricultural or grazing purposes, and thus a very wide field would be opened for agricultural and grazing capital and enterprise, and this (without any legislative enactment infringing the rights of property) would for many years at least check, if not effectually put an end to, that excessive competition for farms which enables proprietors to insert in leases so objectionable clauses for game protection, &c. Besides, the opening up of the country for agricultural and grazing purposes would absorb the surplus unskilled labour in our towns and villages, materially arrest the emigration of our young men to the colonies, favourably act upon our pauperism, not only ultimately increase the home market for our manufactures, but greatly add to our home resources, and lessen our dependence on foreign supply, as well as vastly increase the material wealth of the nation, all which would greatly overbalance any advantage that may arise from the large sums of money brought into the country by sportsmen.

4. The repeal of the game-laws would very soon lead to such a diminution in the number of game, &c., as would make poaching unremunerative, and greatly more difficult than at present, when the poacher's incursions are at least winked at, if not openly encouraged, and this would lead to a great moral and social improvement in our towns and villages, as well as a considerable saving in the expense of punishing crime.

5. The repeal of the game-laws would, in the matter of game, be dealing fairly with the different classes of proprietors and tenants alike; and for the reasons already alluded to, it would be far more likely to enlist the active support of the tenantry, in game-protected estates especially, as well as the hearty sympathy and aid of the town populations, and the labouring classes generally. And as game uncaptured is by law no man's property, the repeal of the game-laws could be no interference with the rights of property.

6. To meet and obviate an objection raised in connection with the supposed destruction of fences, treading down of crops, disturbing of stock, &c., by poachers if the game-laws were repealed, an experience of thirty years as a tenant on an estate where game is not abundant nor strictly preserved, and sixteen years' experience on an estate where game was strictly preserved and abundant, enable me to say, and to say advisedly, that on the former property the annoyance and damage from people trespassing in search of game and otherwise was as nothing in comparison to the annoyance and damage on the latter by sportsmen, gamekeepers, gillies, and dogs; and it is an undoubted fact that many tenants regard poachers as better friends to them than the proprietors who protect game and those employed by them, while the depredations of poachers are as a drop in the bucket compared with the damage done by game, &c. And if the present laws are sufficient to protect the privacy of gentlemen's policies and woods, and also market gardens in the vicinity of large towns, they ought to be sufficient to protect also the farmers' fields, fences, and crops.

A member in Berwickshire writes: I am truly glad that the Chamber has virtually resumed its first position towards the game-laws by restricting its demand to the removal of hares and rabbits from their protection. That demand is so reasonable that so long as we restrict ourselves to it, we are sure of success at no very distant day. I trust that you will have a prosperous meeting.

A member in Dumfriesshire writes: I regret I am unable to attend the meeting of the Chamber of Agriculture on the 25th inst., but beg leave to suggest that only one resolution should be proposed to the special meeting, and that as follows: That the legislative reform now to be sought should be confined to hares and rabbits, giving the occupier of the land, or any one resident on the farm having his authority, the inalienable right to kill the hares and rabbits on the land occupied by him—seeing that if hares and rabbits be removed from the game list all lands will be thrown open to poachers, who, where shooting ground-animals, could not be prosecuted for being in "search of game," and would be liable only under the Trespass Act.

Mr. GEORGE HOPE (Fentonbarns) said: In bringing before you the resolutions proposed by your directors as a solution of the game question, so far as the interests of tenant-farmers are concerned, I have no intention of dilating on the general evils produced by game-laws and the strict preservation of game. We have had enough of that during the last 30 years, and I do not suppose there is a single person present who does

not admit that some change is necessary. We all have acknowledged the evil, but differed as to the remedy. At one period a numerous body of farmers advocated the total abolition of all game-laws, and held public meetings and got up petitions to Parliament for that purpose. For some years I took my share in that labour, but it became obvious that the great majority of farmers did not approve of that remedy. They thought the change too violent, and rather wished to obtain a joint right with the landlord to the game on their farms. In England the game, by law, belongs at present wholly to the occupant of the land, unless he chooses to let it back again to the owner. I may say almost all landlords insist on making this a part of the arrangements when letting farms, and practically the farmers there are no better off than they were previously. It is evident from this that the talk about a joint right with the landlords to the game, still indulged in by a very few members of this Chamber, would, if it were law, to-morrow result in the same state of matters as we know exists south of the Tweed, where the outcry by farmers against game preservation is as loud as it is here. If the farmers there feel compelled to give up the whole of the game, which the law assumes to belong to them, it is not likely their brethren in Scotland would require much pressure to renounce a right given them by law to only a share of it. Shortly after the formation of this Chamber, resolutions were proposed and adopted by it which dropped hares and rabbits from the game list, and recommended amendments to mitigate the rigour of the game-laws, such as securing poachers or presumed poachers a fair trial by Sheriffs of counties, instead of by Justices of the Peace, who may be said thus to be both prosecutors and judges. Also the abolition of separate trials and cumulative penalties for one offence against these laws; and in cases of trials for damage done by game to crops, that the decision of the Sheriff should be final. I may say these resolutions were at first received with the greatest favour, and for a time were accepted by the great majority of farmers as a remedy for the evils under which so many of them writhe. They were embodied in a Bill, and brought before the House of Commons with great ability by our respected friend Mr. M'Lagan, M.P., and to whose services this Chamber is otherwise much indebted. However, the Bill encountered serious opposition in the House of Commons, and has hitherto failed to make way. This has arisen not so much from direct opposition as from the introduction of numerous other Bills all professing to have the same object, though, so far as farmers' grievances are concerned (with one exception, namely, the Bill of Mr. Loch), they were not worth the paper they were written on. The chief feature of Mr. Loch's proposed Bill is, that it makes the killing of hares and rabbits lawful by tenants, or those authorised by them, notwithstanding any agreement with landlords to the contrary. Mr. Loch's Bill has been, and as yet continues to be, warmly supported by a large body of farmers, particularly by our acute friends in Aberdeenshire and the north. Of course this has rendered vain all hopes Mr. M'Lagan may have had of placing his Bill on the statute-book. Possibly the members of Parliament may be entitled, before moving on this question, to say, "Tell us what you want; first agree amongst yourselves before coming to us." Now, there is something in this, and there must be an approach to unanimity before our complaints will be listened to. I more than suspect there are only a very few members of Parliament really in earnest on this question. Some may make promises on the hustings and in their private canvassings, but when once within the walls of St. Stephen's, if they do not laugh at us, they seem to think anything will do as an excuse for shirking their duties so far as trying to find a remedy to mitigate the evils connected with game. Be that as it may, so long as this Chamber itself is divided into two nearly equal hostile factions, besides representatives of the extremes on both sides, all insisting on their own views, it is obvious matters will remain pretty much as they are. Your directors, believing this, held a special meeting to consider whether such an agreement could not be arrived at as would at least protect our crops from destruction, and on which farmers could unite, and thus render their voice in Parliament irresistible, though it might not be to some theoretically the best possible remedy. I am glad to say your directors met with an earnest desire to arrive at some such conclusion, and for the sake of agreement, perhaps, we all yielded somewhat of our own opinions, and I therefore entreat every member present to consider our proposals in

the same liberal spirit. After great consideration, we resolved it would be better to confine our demands solely to what was absolutely essential to enable us to conduct our business as farmers with something like an approach to safety. It is generally admitted that partridges do comparatively little harm, and though, in some cases, pheasants destroy crops to a considerable extent, still they may be looked on as only half-wild poultry reared and fed by hand in plantations, and as they rarely travel far from the coops under which they have been hatched, the damage done by them is confined to certain well known localities; neither is it thought advisable to interfere with grouse or black game. Ultimately your directors resolved: 1st. That the legislative reform now to be sought should be confined to hares and rabbits. We all know that it is the four-footed animals that do by far the greatest amount of damage to crops of all kinds, and also that they increase so rapidly in favourable seasons that great mischief is frequently done, which landlords themselves regret, though they may be unwilling to recompense the tenants in hard cash. Last summer was highly favourable for the breeding of hares in East Lothian, and I know many farmers who complain bitterly of the damage done by them to their grain crops before harvest, and not less of the loss of turnips, which, owing to their being partly eaten, the frost has entirely destroyed within the last few weeks. Well, the second resolution which your directors have to recommend for your adoption is, "That hares and rabbits should be dealt with by removing them from the game list, and giving the occupier of the land, or any one resident on the farm having his authority, the inalienable right to kill the hares and rabbits on the land occupied by him." You will observe that this resolution is an amalgamation of Mr. M'Lagan and Mr. Loch's bills, and, further, is simply the resolution proposed and carried by Mr. Macknight at the last meeting of this Chamber. It was proposed indeed without previous notice, and was only carried by a majority of one, but, after further deliberation, your directors who voted for and against it have now come to the conclusion that its hearty adoption may be the means of again obtaining that unity of action by the members of the Chamber which is absolutely essential for success. At a meeting of the Midland Farmers' Club at Birmingham on the 19th inst., notwithstanding the powerful advocacy of Mr. M'Geachy against all game-laws, the resolution carried was simply to take hares and rabbits out of the game list, and, in the words of the resolution, "the sooner the better." By restricting ourselves to the resolution now proposed by your directors, we can no longer be taunted as advocating "a poachers' bill," and however desirable it may be to lessen the rigours of the punishments for offences against the game-laws, this is a question as much for the public as for us. It does not follow that we, the members of this Chamber of Agriculture, because we find high farming and hares incompatible, should complicate our case by devoting our energies to obtain milder punishments for those who sin against those laws. Now, with respect to Mr. Loch's bill, many of us had strong doubts if it was consistent with good morals to allow tenants to break with impunity verbal, or, it may be, written engagements binding themselves to preserve hares and rabbits for sport to the proprietor. I confess to being one of those who look with extreme distrust upon all laws which free persons from the responsibility of bargains voluntarily entered into. Still we have a few such laws, and this is one, perhaps, as necessary as any already on the statute-book. No sane man would ever enter into an engagement to preserve hares, or agree never to claim damages for crops destroyed by game, unless he was first privately assured that such a thing would never be allowed to take place. Now I am confident that ninety-nine tenants out of a hundred would never touch a hare or rabbit, if they once gave their word to that effect, unless the landlord first broke his promise that hares and rabbits would never be allowed to increase to the extent of materially damaging the crops of the tenant. Hitherto many tenants have trusted their whole fortunes to the good faith of their landlords, and I admit the great majority of them have acted as honourable men. Still we all know that, notwithstanding such promises, many tenants have suffered severely from an increase of game on their farms. If our resolution becomes law, landlords will only have to trust to the honesty of tenants whether a few hares less or more be found on their estates, and I believe the result will be much the same with the

tenants as it has been with the landlords, viz., that the great majority will act honestly. One of the objections brought against Mr. Loch's Bill was that tenants might privately bargain with landlords to leave hares and rabbits untouched, and then let the shooting of them to strangers. In order to obviate this it is proposed to restrict the right of killing them to the tenant himself, or any one residing on the farm having his authority. These resolutions are certainly moderate enough, and yet if they become law I believe the evils of the game-laws, so far as tenant-farmers are concerned, would be substantially, if not altogether, redressed. Self-preservation being the first law of nature, so in this matter we are simply looking after our professional interests, and leaving to others to rectify, if they think fit, the complaints against game and game-laws. But it will not do simply to pass resolutions here; we must be ready to seize every opportunity of choosing our Parliamentary representatives; to select those, and those only, whatever their shade of politics may be, who are at one with us on this question, and more particularly so if they are also ready to vote for the total abolition of the law of hypothec. Farmers have hitherto been a rope of sand, but if we can only obtain unity amongst ourselves, and act with oneness of purpose, there is not the slightest necessity for our suffering under any grievance. I beg to move the following resolutions: "1. That the legislative reform now to be sought should be confined to hares and rabbits. 2. That hares and rabbits should be dealt with by removing them from the game list, and giving the occupier of the land, or any one resident on the farm having his authority, the inalienable right to kill the hares and rabbits on the land occupied by him."

The CHAIRMAN said the meeting had now got the opinion of the directors before them. None of the individual directors had changed their views; but it was found necessary on all hands to yield something, and the matter therefore came before them in the nature of a compromise. The secretary had been asked to draw up a Bill, which was now submitted to the meeting. As far as he (the Chairman) had seen it, it was simply an echo of the resolutions, and those who agreed to the resolutions would support the Bill.

Mr. BARCLAY (Auchlopan, Aberdeen) said that in rising to second the resolution which had just been moved by Mr. Hope, he might very well have allowed the matter to rest in the position in which Mr. Hope had so well placed it; but as he understood—and indeed notice had been given of it—that an amendment was to be proposed in favour of a total abolition of the game-laws, he thought it was desirable, when they were about to take so important a step in connection with this matter, that they should consider the nature of the grievances which they were about to remedy, and how they could most directly accomplish their remedy. The grievance that the farmers complained of at the present time was that the crops which they produced on their farms for the purpose of paying their rents and sustaining their families were eaten up by the landlords' game, and for this they received no recompense, and they were thereby deterred from improving their farms and developing the resources of the soil to the extent they otherwise would do, and so the public interest was damaged by the existing state of matters. The directors of this Chamber had considered the question, and had come to the conclusion that the principles and reforms embodied in the resolutions now submitted would accomplish this desired object very clearly and distinctly. It was unnecessary to ask the question why farmers in taking farms submitted to those unjust conditions they complained of. What with the law of hypothec, the increase and size of the farms, and the consequent decrease in their number, and the increase of population, a tenant to obtain a farm must submit to the landlord's conditions. He might endeavour to get those conditions made as light as possible, but it practically comes to this, if he did not submit to the landlord's conditions, whatever they might be, he must abandon the farm and expatriate himself. This was the grievance of which farmers complained. Now what was the most direct and effectual remedy for this grievance. The most simple and direct remedy was this, that the occupier of land should have the right to kill hares and rabbits on the farms occupied by him; or, in other words, that the farmer should have the right in all circumstances to protect his crops from the ravages of wild animals, without being dependent for that right either upon the will of the landlord

or a lessee. He had heard it, perhaps not seriously, objected to that afterwards the tenants on taking the farm would combine to preserve hares and rabbits; in short, that the landlord and tenant would conspire to evade this Act of Parliament. If this were done, he thought they could have no sympathy with either party, and they might be left to themselves as others were who conspired to injure the public by evasion of an Act of Parliament. He believed that it was probable that an understanding would exist afterwards, either actually expressed verbally or referred to in the lease, that there should be a reasonable amount of game on the land for the purpose of fair and legitimate sport. The farmers would not complain of this, and that the public would not suffer by it. There could be no practical objection to a certain amount of wild animals until the damage caused by them became appreciable. If game was kept down to that limit that it never entered into the consideration of the farmer in projecting improvements, and developing the resources of his soil, the public had no ground of complaint. An understanding of this kind existed already in some cases, and the only difference which the Act would make was that in future the interpretation of it would be in the hands of the tenant, and not, as at present, in the hands of the landlord. The proposed resolutions were not an interference with the rights of property, but was an interference with the abuse of property in land. As to the game-laws in the light of a criminal code, such could find no defenders, and must condemn also the effect they had in the conversion of lands partly arable and partly pasture into deer forests. The effect of the resolutions would be to give the occupier the inalienable control over hares and rabbits upon the land occupied by him, and would prove a direct and simple remedy for the grievance of which farmers complained; and in the next place the effect of the resolutions would in no wise interfere injuriously with the rental derived from land. It was incumbent upon those who moved for the total abolition of the game-laws to show that it would accomplish the object which the directors had now in view as effectively, and at no greater cost than the bill now submitted to the consideration of the meeting. However desirous he was for the reconsideration of the land question, he did not think the present was the time for taking up the subject. He hoped the members would unite in the straightforward step—a step in advance—now proposed, and which would give them a remedy of the grievances complained of.

Mr. RIDDELL (Hundalee) moved the following amendment: "That this Chamber is of opinion that the game-laws are most injurious to agriculture, and constitute in their origin, and the stringency with which they have been maintained, a great class privilege hostile to the common weal. That the whole question has now reached the stage when it is past the necessity of argumentative statement, its sum and substance being to declare that the tendency of these laws is to demoralize alike landlords, their tenantry, and labourers—to produce crime and an endless waste of judicial authority in the State, thereby adding to the heavy rates which affect all classes, and creating a hurtful feeling in society. That every legitimate means should be taken to secure a permanent settlement of this long-standing grievance connected with cultivation of the soil, in the abolition of the game-laws."

Mr. ALEXANDER (Glamis) seconded the amendment. He had been under the impression that they were called together for the purpose of discussing the bills of Mr. Loch and Mr. M'Lagan. At the last meeting the debate on these bills was adjourned by a vote of the Chamber, and they were to have met again to resume the discussion of them. The directors had thought fit to throw that resolution of the Chamber under the table as worthless, and to call them together for another purpose. His opinion was, that if this was the way the business was to be conducted, the Chamber would not long hold together. The position the directors had taken in this question was unintelligible to him. They wished to take hares and rabbits out of the game list and give tenant-farmers the inalienable right to kill these animals upon their farms. He did not see how they could attack hares and rabbits upon any such basis, for as far as these animals were concerned they had the remedy in their own hands, if they chose not to sign a lease which had for its condition the preserving of these animals. The only way in which the game list could be attacked was on these grounds—that these laws were subversive to all good morality in this country, tended to produce crime, were the

cause of 10,000 stupid convictions every year, increased pauperism, and degraded every one whom they affected. They did the crops of agriculturists serious damage, and destroyed the food of the nation. They could go to Parliament to ask it to rectify such evils as these, but they could not go to Parliament to ask them to remedy evils which the farmers produced with their own pens. The directors had limited the grand agitation against the game-laws to a mere question of selfishness. They wished the support of the people of the towns, whom they had absolutely courted, but now they were saying to these people that they did not care a single straw for the demoralisation of the country—that all they wanted them to do was to save the farmers, although they were guilty of this paltry exhibition of selfishness. If the hares and rabbits were excluded from the game-list, what would be the result as far as the crops were concerned? The evil would not be much struck at. The great infantry movement over all the turnip fields of the country would not be put a stop to. What would be the effect so far as the landlord, gamekeeper, and tenant were concerned? The result would be to embitter the relations between them. The landlord was perhaps fond of sport, and came out for some of it, but he might not perhaps find as many birds as he expected. He would blame the keeper, and the latter would answer that he could not help it for the farmers were out every day shooting hares. The landlord would perhaps curse both the farmer and the hares, and the keeper would dodge about the farmer when he was out shooting hares, and would watch him. Did they suppose a British farmer would be out shooting hares and see birds rising before his nose and never knock down one of them? (Hear, hear, and cries of "No, no"). He confessed that he would do it. The next part of the question was that of trespass. It was argued if they did not abolish the game-laws the whole agricultural population would arm themselves with muskets, and would proceed to destroy the game. It would be a good thing for Mr. Lowe if they did, for he would have about four millions of a surplus by his gun-tax; but he did not think they would even be bothered much by anything of the kind. The people did not care a straw for such amusements, and could find better employment at their usual industries. He had been a farmer for many years, and he had never had much cause to complain of trespass. The truth of the matter was that the poachers were the greatest upholders of the game-laws, and themselves confessed that if these laws were abolished their occupation would be gone. In seeking to uphold these laws, they were upholding the poachers.

Mr. MACKNIGHT, an advocate, did not approve of all the resolutions. He agreed with the resolution striking out hares and rabbits out of the game list. He adverted to the word "inalienable," asking what the directors meant by it. If the farmer had the inalienable right to kill game, they might also let that right to other people. If a bill to this effect passed in the terms proposed, it would lead to this that it would be quite competent for the tenant to let the shooting on his farm to any one who would give him a rent for it.

Mr. BARCLAY: It is restricted to those residing on the farm.

Mr. MACKNIGHT maintained that an Act of the kind referred would be strictly interpreted to give the tenant the right if he choose ("No, no"). He objected to the resolution as defective, and as it exposed them to the evils of over-preservation of game from a different party. He deprecated the Chamber being asked to recede from the resolutions of April last, which met with a large share of support in and out of Parliament. He concluded by moving that the resolutions adopted on the 27th April last by the Chamber be continued and adopted in place of the resolutions proposed by the directors.

Mr. BETHUNE (Beboe) supported the resolutions as a reasonable compromise, and as affording a great practical remedy for the grievances of which farmers complained.

Mr. BLUES (Dalruskin) asked if this proposal to give the tenants an inalienable right to hares and rabbits took away the right to kill the game from the landlords (cries of "No, no"). If not, then there could be no overselling of the game by crazed farmers, as hinted at. This proposal by the directors was, he considered, the most reasonable and practicable yet made. Less than this would never satisfy the country, and a reform of the game-laws to this extent would do more for

agriculture materially and morally than anyone could well conceive of.

Mr. LANGLAND (Kemmooh) thought the meaning of the word inalienable might be held to mean that none else save the tenant or a party resident on the farm could destroy the game.

Mr. BINNING HOME (Ergatz) said that twenty odd years ago he gave the tenants on his farms the liberty of killing the rabbits. He could look at the question in a very impartial point of view, because he had been as keen a sportsman as anybody. He had come to the resolution that it was a monstrous shame for animals to be kept which destroyed the tenants' crops. He thought that rabbits were the principal depredators. As regards hares, it was a great mistake to keep them in great numbers. He had not the least hesitation in agreeing with the resolutions proposed, as he thought that they were very wise. They ask for the removal of a real grievance, and did not attempt to ask what would be refused. The probability was that these resolutions would meet with the approval of the country and Legislature. Winged game he thought the farmers should have. It was scarcely possible to have too many partridge, as they destroyed the pests of the farm. He would like a sprinkling of pheasants, but an excessive amount was a crime as affording an inducement to poaching. Pheasants eat the pests of the farm, which the partridges did not pick up. Such pests as hares and rabbits should be put an end to as quickly as possible.

Mr. MACDONALD (Morar) said that in voting upon the resolutions and amendment he could not accord with either, as

he thought it would be becoming in the Chamber to come to a resolution that would be a permanent settlement of the question. The resolutions did not go far enough. He should like to see the question settled in a manner that would destroy all acrimony between the proprietor and tenant. His idea was that if the occupier had the right to kill all kinds of game in his cultivated lands, the game-laws might still exist, and the proprietors would still have the exclusive right in game in the uncultivated portions of the country.

Mr. NICOLL (Littleton, Kirriemuir) regretted the difference of opinion existing in the Chamber as tending to delay a satisfactory settlement of the question. He supported the resolutions.

Mr. WILSON (Hawick) was in favour of having the game the joint property of the landlord and the tenant. He was disposed, however, to waive his own individual sentiments and support the resolutions of the directors.

Mr. BARCLAY having replied,

The resolution was ultimately put in the following terms: "That hares and rabbits should be dealt with by removing them from the game list, and giving the occupier of land a joint right with the landlord to kill hares and rabbits on the land occupied by him; and the tenant's right shall be inalienable, and be exercised by any one having the tenant's authority." This was carried by a large majority, 35 voting for it, and only 11 for the amendment.

It was remitted to the directors to draw up a bill in terms of the resolutions.

A FARM LEASE.

At the annual meeting of the Devon and Cornwall Chamber of Agriculture in Plymouth, the report of the Council having been read by the Secretary, Sir MASSEY LOPES (the Chairman) called the attention to the fact that although the Chamber numbered something like 550 members, yet only 170 appeared to have paid their subscriptions. This certainly was not a satisfactory state of things, and was a matter with respect to which, in his opinion, some steps ought to be taken.

Mr. MOON said there were nearly four hundred members who had not paid their subscriptions.

Mr. W. H. P. Carew, of Anthony, was elected President for the year.

Mr. HENRY CLARK said he first brought forward his Farm Lease because he was asked to do so by a large landed interest, and also by several tenant farmers, and it was an undisputed fact that at that time there was no lease which gave a tenant any compensation at all for unexhausted improvements. His lease was very carefully considered by the Chamber at more than one meeting, amendments in it were made, and eventually it was adopted, after the quitting allowances had been made more favourable to the tenant than was at first proposed. He did not suppose that the lease would be adopted by all the large landowners in the district, but, at the same time, he might mention that some of them had written to him, announcing their intention to accept it, and it had been very favourably spoken of by such practical men as Mr. J. Daw, of Exeter; Mr. Locke, land agent, of North Devon; and Mr. Horwell.

Mr. SPEAR did not believe the lease would at all meet the case. If he were a landlord, he should like to have his own way and his own say and do, but, on the other hand, it seemed to him that if he were a tenant it would be in his power to say, in case he was seeking to occupy a farm, whether he would accept the terms of the landlord or not. He was in favour of 21 years' leases; was of opinion that rents should be paid quarterly, that the landlord's property should be protected from spoliation, that was to say, that no timber should be cut, no falls removed, and no fences put down; and he was also of opinion that a tenant should be free to farm his estate as he pleased, having no restrictions placed upon him as to cropping, as to the manure he should use, or (as to the way in which he should apply it. He was anxious to see a good and satisfactory form of lease settled and arranged, because he

could not help bearing in mind that in the county of Norfolk there were 18,000 acres of land unlet in consequence of the landlords and tenants not being able to agree upon a form of lease that would be generally acceptable.

Sir MASSEY LOPES thought the words in the agenda paper were rather too strong, because he did not understand that the lease of his friend, Mr. Clarke, had been adopted by the Chamber at all (cries of "Yes! yes!"). At any rate he, as a member of the Chamber, had not seen it, and as a landlord he had not adopted it, although at the same time he was not going to say that it was not a capital lease. What he maintained was that the same lease was not at all applicable to poor land and to rich land, nor was it applicable to a dairy-farm and a cereal-crop farm, and therefore it was a matter requiring a vast deal of consideration. He had no desire whatever to throw cold water upon the very able efforts of Mr. Clark, who was really deserving the thanks of the Chamber; but he thought it would have been better if the word "recommended" instead of "adopted" had been inserted in the agenda paper.

Mr. CLARK: I would just mention that if that lease, embodying, as it does, the principle of Tenant-Right, is carried out, it will tend to make some poor land exceedingly good (Hear, hear).

Sir MASSEY: Then it is the best lease I have ever seen (loud laughter and applause). If that is to be the result I will adopt it *in toto*, for I have a deal of poor land.

Mr. GILL contended that the lease was by its clauses applicable both to dairy and cereal farms. But in clause 8 he would suggest that "meadow land" should be substituted for "pasture land," and that no rich pasture or grazing-land should ever, unless with the written consent of the landlord, be mowed.

Mr. CLARK explained that this was the committee's clause, but that the time had passed for any further revision. The question had been raised, and he regretted that Mr. Gill had not been present to give his valuable suggestions.

The CHAIRMAN did not see that he could stop any observations on the lease, because the agenda paper proposed that the Chamber should adopt it—a very grave responsibility.

Mr. GILL called attention to the vagueness of the phrase, "full equivalent" in many of the clauses. No lease was worth the paper it was written on without it well-defined the compensation to be paid to the tenant. The lease started with an

excellent principle, and recognized the duty the landlord and tenant owed to each other. They should, therefore, try and make the lease as practicable as possible: get rid of words that might lead to litigation, and so arrange a schedule of compensation to the out-going tenant that he might not be left to the mercy of an arbitrator. He further suggested that "half-inch bone" should be inserted for "dry bone;" that the dung, or other manure, to replace crops eaten off the farm, should be of the same "money" instead of "manurial" value, and that half-inch bone and dissolved bone ought not to be put in the same category. He objected to the clause referring to the compensation for purchased food for sheep as indefinite. In Lincolnshire half the cost price of the purchased food was allowed to the tenant on leaving, and the sheep are bound to eat half of the food in the stalls or yard that the manure produced should be of good quality. He then moved a resolution to the effect that the form of lease kindly prepared by Mr. Clark, and carefully considered by meetings of this Chamber, is recommended in its general features for the consideration of other Chambers, and that the best thanks of this Chamber be given to Mr. Clark for his valuable services in connection with it.

Mr. SOWTON said the members could have no idea of the pains Mr. Clark had taken in this matter. The committee were not unanimous in their opinion as to what was the best lease to be adopted for the whole district of the Chamber. In Devonshire land that was watered was called meadow, and it was thought that that could fairly be mown; and grass land not watered was called pasture, and it was held that this ought not to be mown without being manured either before or after. It was difficult to frame a lease for one farm, and much more difficult was it to do this for farms in a whole district, with all the varieties of hill and dale and of the soil that they found in the county. A wide margin must, therefore, be left in every lease, and the landlord ought to be satisfied by knowing that his land was not going back, and that his tenant was paying his rent. If they were to have absolute rules for manuring and cropping they may as well have a London tailor for the farmer as the most practical man in the room. Matters should be left to the discretion of practical men to get the greatest amount of produce from the land and leave it in a good state. The Cornish element was so strong on the committee that their system, not at all applicable to the Devonshire system, gave, of course, the tone to the alterations. In conclusion, he saw no advantage in the hares being reserved to the tenant, who ought to preserve them if he had a sporting landlord; and he urged that slate on the roofs should, in all cases of renewal, be substituted for thatch, which now encouraged vermin of all descriptions.

Mr. W. SNELL cordially seconded Mr. Gill's motion. After quiet and careful consideration, they would come to the conclusion that the lease was fair and just between landlord and tenant; but as to its suiting the whole of the farm of the district, it was not intended that it should. No sane man would attempt to frame a lease that should; but the general bearing of the lease would suit all farms, and there must be variations to meet different circumstances. It was a lease which he as a landowner should be glad to let under, and as tenant he should be content to take under. It was a lease under which land was calculated to increase in value, and it gave every protection to the tenant for the outlay of his capital, so that at the end of his lease he would not be under the necessity of sharpening out. If it did all this they got, as tenant farmers, all they asked for, and gave the landlord at the same time all he could wish for. He defied any one to go through the lease clause by clause and show that it does not meet their case. He congratulated Mr. Clark on what he had achieved, for it was a very great improvement on former leases. His only objection to it was that the compensation in favour of the out-going tenant was a little too high, which was, as some would say, erring on the safe side.

Mr. PERRY thought that a schedule, in which Professor Voelcker should assign the value of cattle, foods, and manures, would greatly improve the lease.

Mr. N. ROSEVEARE thought Mr. Gill could not have read the lease carefully, and have considered the bearing of one clause upon the other, to have made the objections he did. It was quite ridiculous to suppose that, because a tenant sold £1 worth of turnips off the estate, that he should bring back the

money-value in artificial manure, when their manurial value was only four or five shillings.

Sir MASSEY LORRE observed that this question was, perhaps, more momentous than any other. He was a great advocate of leases himself, and would not take a tenant without a lease. He had property in another county, where there were no leases but all six months' holdings; but he would not let farms under such holdings. He thought it was only fair to him and to his tenant that there should be a lease, the object of which was to prevent damage to the landlord and loss to the tenant. And the most important thing that could be put into a lease for the tenant is compensation for unexhausted manures and for improvements. In England the landlord, as a rule, did all permanent improvements; the exception was where they were done by the tenant, but when, with the consent of the owner, he did make them, he should be compensated whenever he was turned out. In regard to unexhausted manures, the tenant should have the greatest security for his capital thus laid out; but, with regard to guano and nitrate of soda, it was a question for how long the land was benefitted by their application. His opinion was, that the great benefit was simply to the first crop; and that if a good turnip crop was secured it was as much as they could hope for from artificial manures. He denied that there was any great benefit beyond this from artificial manures. Last season—an unusually dry one—he put in a great quantity of guano, nitrate of soda, &c., and his crops were a failure. Now, if he was going to let his estate, should he be justified in calling on the tenant to pay for those manures, which he believed were volatile, and had passed from the land?

Mr. SNELL mentioned that lime and bones, dissolved bones, or any other purchased manures, were mentioned in the clause.

Sir MASSEY: "Any other purchased manures" was what I stuck at. I am afraid we are going a little too far in the way of artificial manures. I should like to see more lime used, and, better still, more dung, for a great many of the artificial manures are like dram drinking.

Mr. B. SNELL observed that the word "equivalent" was introduced by the committee, who thought it would be presumptuous to define what the manures should be when other new and better things might spring up.

The resolution was put and carried unanimously.

The following is a copy of the lease:

THIS INDENTURE made the _____ day _____ one thousand and eight hundred and _____ between _____ hereinafter called the Landlord, of the one part, and _____ of the parish of _____ in the county of Devon, hereinafter called the Tenant, of the other part.

1. The Landlord agrees to let and the Tenant agrees to take subject to the conditions herein contained the house buildings and farm lands called _____ situate in the parish of _____ in the county of Devon containing _____ acres _____ roods and _____ perches (be the same more or less) the same being more particularly described in the schedule hereunto annexed. To hold the same unto the Tenant (except as hereinafter excepted and reserved) from the twenty-fifth day of March one thousand eight hundred and _____ for the term of fourteen years (renewable three years before the expiration of such term) thence next ensuing at the yearly rent of _____ payable

quarterly on Midsummer-day, Michaelmas-day, Christmas-day and Lady-day by four equal portions except that the last year's rent preceding the expiration of this tenancy shall be considered due and payable in advance (if required) and if not so paid shall and may be recovered as well by distress as by action at law.

2. The Landlord excepting and reserving out of the letting hereby made all mines ores minerals stone gravel slate clay marl and quarries and liberty for himself and all persons duly authorised by him to enter on the said premises and search for dig get and raise dress and prepare on the said premises and carry away the same respectively (allowing the Tenant the proportionate annual value of any land to be

taken for and all surface damage done by any of the said works). And all watercourses streams and springs of water and liberty to turn the same. And all trees tallows standards saplings wood and underwood whatsoever growing or to be grown on the said premises (except brushwood on the hedges) and liberty for the Landlords and others authorized by him to enter upon the said premises and cut bark stack and carry away the same. And to enter and erect buildings or plant trees on and thenceforth retain possession of any part of the said premises (allowing the Tenant a proportionate annual value for all lands so taken and occupied as aforesaid). And all winged game in and about the said premises and full liberty for the Landlord and all persons duly authorized by him to enter hunt course shoot fowl fish and sport on the said premises. And full liberty to pass and repass and to enter on any part of the said premises and view the state of repair and cultivation and to do such works and repairs and erect such buildings thereon for the use and occupation of the Tenant as the Landlord shall think proper and to remove make and plant hedges without making any compensation for so doing.

3. That the Tenant shall pay the rent according to the above reservations and shall pay all rates and taxes to become due and payable in respect of the said premises except the land tax rent charge in lieu of tithes and the Landlord's property tax.

4. That the Tenant shall keep in good repair the house and buildings (except walls and slated roofs which shall be kept in good repair by the Landlord) all machinery wells pumps hedges ditches roads fences gates and sties and shall keep open and cleanse all the ditches drains tunnels watercourses hollow drains and gutters on the said premises and the Tenant shall at his own cost carry the materials for all repairs on the said premises the Landlord providing timber for the same. And the Tenant shall well protect and plant all orchards with good plantable apple trees in lieu of any vacancy that may occur and shall once in seven years well manure the same.

5. That the Tenant shall immediately after cutting the hedges new make them and cast the ditches in a good and workmanlike manner, except when annually clipt.

6. That the Tenant shall cleanse and keep open the iron and lead gutters the eaves guttering and down pipes belonging to the house and buildings and should any damage accrue to the house buildings gates or gate-posts through the wilful act or neglect of the Tenant the same shall be repaired by the Landlord and the whole cost thereof paid to him by the Tenant in addition to the said rent (to be immediately recoverable by distress as in case of rent in arrear).

7. That the Tenant shall not without the previous consent in writing of the Landlord or his steward plough break up convert into tillage or pare or burn any of the meadow or pasture land hereby let or the turf or soil of any part of the lands hereby let under a penalty of fifty pounds for each acre and so in proportion for a greater or less quantity than an acre of the land so damaged (to be immediately recoverable by distress as in case of rent in arrear).

8. That the Tenant shall not mow any of the pasture land excepting watered meadow without manuring it with at least 20 cubic yards of rotten and evenly spread dung per statute acre or a full equivalent in some other approved manure either previous to or immediately after such cutting and not to mow any such pasture land more than once in the same year.

9. That the Tenant shall not grow white straw crops on more than the three-sevenths of the arable land in any one year and not less than one-third the quantity of land in corn or grain in the same year shall be in roots properly cultivated and cleaned and not less than one-third of the land in grain shall be sown with clover and grass seeds in each and every year and those seeds to be sown upon the first corn crop after a green crop. The roots to be manured with at least 25 cubic yards of well rotted and equally spread farm-yard dung per statute acre or a full equivalent in some other approved manure. And where two corn crops are taken in succession one of such crops shall be manured in the same proportions as laid down for the roots. The Tenant not to grow more than two corn crops in succession.

10. That the Landlord or his incoming Tenant shall provide and sow such clover and grass seeds as he or they may think proper in the spring previous to the expiration of the Tenancy and the outgoing Tenant shall work in the same the land so

sown not to be stocked after the first day of November and previous to that time by sheep pigs and calves only.

11. That the Tenant shall consume not less than three-fourths of the root crop nor less than one-half of the straw grown on the premises (excepting the last year when the whole of such root crops and straw shall remain on the premises) and shall for the one-fourth of roots sold or carried away bring back in cattle food dry bones guano or dung the same manurial value as the roots sold or carried away. And the Tenant shall well preserve and annually spread all the dung manure and compost which shall grow arise or be made thereon during the letting hereby made upon the premises and shall on quitting leave all the unconsumed hay reed straw chaff and green crops grown on the premises for the use of the Landlord or his incoming Tenant payment or compensation only being made at a consuming value on the farm for hay and green crops (not to exceed one-eighth of those grown in the year) and dung. And shall set apart not less than one-eighth of the straw for the use of the incoming tenant to be paid for in the same way.

12. That the Tenant shall mow spud or root up all thistles and other noxious weeds on the said premises as often as necessary and not suffer any weeds to seed thereon but endeavour as far as possible to extirpate them.

13. That the Tenant shall allow his Landlord or his incoming Tenant to enter on the first day of July preceding the Lady-day at which the letting hereby made will cease upon all such parts of the lands hereby let as shall come in the course to be sown with wheat (the Landlord or incoming Tenant allowing or paying to the outgoing Tenant one half-year's rent of such parts of the said lands and the rates thereon in full compensation for the same) and in case the outgoing Tenant shall be required to prepare and sow such lands as are in course for wheat he shall do so and be allowed in addition to the half-year's rent and rates as aforesaid for all acts of husbandry the seed corn together with the cost of carrying out any manure that may be required thereon and to enter on all stubble or arishes on the first day of November preceding the said Lady-day and on the 25th day of January so preceding shall enter on all lands (not being pasture) for preparing and tilling the spring crops excepting one-third part of the green crop land in case the same be not cleared off.

14. That the Tenant shall reside upon the premises and shall not assign or underlet or part with the actual and personal possession of any part of the said premises.

15. That if at any time during the continuance of this letting the Tenant shall assign or underlet or part with the actual and personal possession of any part of the said premises without the previous consent in writing of the Landlord or his steward or make default in payment of the rent hereby reserved or in any of the payments hereby agreed to be made payable or make breach in any of the terms stipulations restrictions conditions and agreements hereinbefore contained or become bankrupt or make any composition with creditors or make or give any assignment or bill of sale for the benefit of any creditor or creditors or otherwise be deprived or be liable to be deprived of the possession or occupation of the premises hereby let or the benefit or advantage thereof or if at any time no sufficient distress shall be found on the said premises for the amount of the rent then due or if any execution or process shall issue against the Tenant or any other person or persons under or by virtue of which the stock and crops upon the said premises or any part thereof shall be liable to be seized by the sheriff or any other person then either immediately on the occurring of any or either of the said cases or at any time thereafter at the option of the Landlord the tenancy hereby created shall cease and determine and immediately thereupon and at any time thereafter the Landlord shall have full liberty and power to re-enter upon and thenceforth retain possession of the whole of the said premises.

16. That all notices to be given if for the Landlord may be left at _____ and if for the Tenant may be left on the premises and to have the same effect as if delivered personally to the Landlord or Tenant.

17. That should any dispute arise as to the valuations or as to the non-fulfilment or true construction of any of the clauses of this lease the same shall be settled by two arbitrators one to be chosen by the Landlord or his steward and the other by the Tenant or in case of their disagreeing by an umpire (to

be chosen by such arbitrators) each party within ten days after notice thereof given by the other party to appoint one arbitrator in writing and in case either party shall neglect or refuse to nominate an arbitrator within that time the arbitrator of the other party may proceed in the business alone and the decision of such arbitrator or arbitrators or their umpire (as the case may be) shall be final and conclusive. And the arbitrator or arbitrators so to be appointed or their umpire shall have power to award to the Landlord such damages as they may think reasonable for any breaches of the covenants of this lease that may have been committed by the Tenant and to award to the Tenant such sum as they may determine for any breaches of covenant that may have been committed by the Landlord and compensation according to the schedule of allowances herein contained but it shall not be necessary for such arbitrator or arbitrators or their umpire to specify the respective amounts but to state the balance to be paid by either party to the other.

18. SCHEDULE OF ALLOWANCES.—That on quitting the Tenant shall be entitled to the following allowances for unexhausted purchased manures (the bills for the same duly receipted being produced and satisfactory proof given that such manures have been expended on the said premises) but no purchased manures shall be expended during the last year of the Tenancy without the consent in writing of the Landlord or his steward:

On Pasture Land: When applied in the last year of the Tenancy, the whole cost of lime carriage and manual labour; when applied one year previously, four-fifths of ditto; when applied two years previously, three-fifths of ditto; when applied three years previously, two-fifths of ditto; when applied four years previously, one-fifth of ditto. The net cost of the lime at the kiln railway-station or wharf with a reasonable allowance for carriage and manual labour to be taken as the total cost in the above calculation. The allowance for dry half-inch bones to be made in the same proportions as lime (carriage and manual labour excepted). The bills for all lime and bones expended on the pasture land to be kept separate and the invoices thereof produced to the Landlord or his steward within one month after the carrying on of such manure that he may certify the same if correct.

On Arable Land: When applied upon a crop of corn which shall be in the land at quitting, the whole cost of lime carriage and spreading; when one crop of corn has been taken, one-half of ditto; when one corn crop and one green crop have been taken, one-fourth of ditto. The allowance for dry half-inch bones to be made in the same proportions as lime (carriage and manual labour excepted). Two-thirds of the cost of all dissolved or other bones or such other purchased manures as shall be specially approved by the Landlord or his Steward before being expended in the last year on Lands properly fallowed and sown with turnips rape or mangold wurtzel provided the same does not exceed in value two pounds per acre but no allowance to be made for carriage or manual labour. That the Tenant on quitting shall be entitled to the manorial value of purchased food used for sheep in the field only the bills for the same duly receipted being produced and satisfactory proof given that it has been properly expended on the premises.

A TENANT-RIGHT LEASE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Seeing in your last paper a notice of a farm lease drawn by me and received at the general meeting of the Devon and Cornwall Chamber of Agriculture, I venture to trouble you with a brief notice of its history, so that those who are not members of the Chamber may the better understand the grounds on which I brought it forward, and the alterations made by the Chamber.

At the request of the Chamber last autumn I undertook to introduce for discussion "Farming Covenants." A bold and great undertaking no doubt; but with the promise of assistance from several practical agriculturists, and feeling that it was a question of all others upon which a Chamber of Agriculture, composed of leading agriculturists, both owners and occupiers, was fully com-

petent to guide and form public opinion, I did not hesitate. The suggestion was then made to me that, in order to give the matter a practical turn, I should introduce what I thought would be a fair farm agreement between landlord and tenant. I at once assented, and at a glance saw how great was the necessity of having the question fully ventilated. I first of all directed my attention to the terms on which estates were held in the district. I found there were leases, yearly agreements, and tenants at will. Some leases and yearly agreements, no doubt, contained fair covenants; others were quite the other way; and others so arbitrary that I wondered any tenant could be found to accept them. Some contained, no doubt, quitting allowances (notably on the St. Aubyn estates, where such an excellent feeling prevails, that the tenants do not care to take leases; and also on the Molesworth property); but none contained a *defined* scale of allowances for unexhausted manures. And believing it to be the duty of every landowner who did not farm, but let his estate to another person to see the probability of the land being made to yield its full increase, to put his tenant under an agreement framed liberally, and that a tenant who enters a farm ought to know as nearly as possible upon what he will be allowed for upon quitting; for when agreements contained no defined allowances for unexhausted improvements, they had to fall back on the custom. And failing to find there was any custom in Devon and Cornwall giving the tenant any compensation for unexhausted improvements, I at once, taking for my basis the natural fertility of the soil as the property of the landlord, and the condition of the soil produced by good farming as the tenant's, proceeded to prepare an agreement, with the assistance of several practical agriculturists, with the view to enable the tenant to farm his estate up to the last day of his term, "not only without deterioration, but with a progressing and increasing fertility of the soil," fully satisfied that he will receive compensation for whatever capital he may invest in the soil.

I launched then at the meeting of the Chamber a farm agreement for a yearly tenancy, with twelve months' notice to quit, based on the principle that the landlord did all permanent improvements, as all landlords should do, embodying an equitable Tenant Right for unexhausted manures, and explained at the time that the principle of tenant-right was equally applicable to a yearly tenancy or a lease. The Chamber received it favourably, and at the next meeting an attempt was made by a few members to draw a false scent across the line by raising the question of yearly tenancy *versus* lease. The farm agreement was then referred to a committee of practical agriculturists; and in order that there might be no misunderstanding as to the principle of tenant-right being as applicable to a lease as a yearly tenancy, I placed before the committee a lease for twenty-one years, together with a farm agreement for a yearly tenancy, with twelve months' notice to quit. Nothing could exceed the care and attention bestowed by the committee on the matter, and after several sittings the lease was presented to the Chamber as altered by the committee. With the treatment of the lease I had no reason to be dissatisfied, since the principle on which the lease was based was approved by them, and the alterations in some instances were an improvement.

In the first place, the committee decided upon a term of fourteen years, renewable three years before the expiration of the term, instead of twenty-one years, as proposed by me. Then there was no material alteration until the cropping clause, which I freely admit is a better clause than that proposed by me, since it is more elastic, and allows the tenant to take two corn crops in succession.

Next the committee pointed out my restrictions on the

sale of farm produce, leaving the tenant free to sell all hay and a proportion of straw and roots on bringing back an equivalent "in manurial value" for roots. But the hardest hit the committee gave me was in striking out lime from the schedule of allowances, and making the schedule in other respects less liberal to the tenant than I proposed.

The lease, so altered by the committee, was submitted to the Chamber, and the Chamber approved the alterations of the Committee, but restored lime to the schedule of allowances. The lease thus altered was approved by the Chamber. That it will generally be adopted is more than I can expect, but that its leading features will be adopted by many landowners I have no doubt. It may

not go far enough for some; but I do not think at present the landowners are prepared to go further. That the principle of Tenant Right will prevail in the end there can be no doubt; it must be so, since the interests of the landowner, the tenant, the labourer, and the public are wrapped up in the land being made to yield its full increase; and unless the tenant has security for his capital, how can this be brought about?

As a landowner myself, I would say to others, lose no time in placing your tenants under agreements with liberal, well-defined compensation clauses; so that when the English Land Bill comes, as undoubtedly it will, you may be in a position to meet it.

HENRY CLARK.

Efford Manor, South Devon.

SCIENTIFIC AGRICULTURE WITH A VIEW TO PROFIT.

The following paper was read by Mr. J. B. Lawes, of Rothamsted, at a recent meeting of the Maidstone Farmers' Club:

"Practice with Science," the motto of the Royal Agricultural Society of England, and "Scientific Agriculture with a View to Profit," the title of the subject we are to discuss this evening, represent very similar ideas. It is true the founders of the Society gave more prominence to "Practice," by placing that word before "Science;" while the committee of the Maidstone Farmers' Club have given to Science the place of honour; but they have indicated in plain and unmistakable language upon what terms they yield the position of distinction to Science—it is only provided it can be followed "with a view to profit." They say in fact to Science, "fill our stack-yards, and our pockets, and you are welcome; but do not trouble us with abstract truths, or speculative opinions, which we cannot turn to profitable account." I think I may assume that your desire to discuss this subject, and my presence here to introduce it, are due in great measure to what some of the members of this Club saw and heard on the occasion of a visit which I had the honour to receive from them, at Rothamsted, during the past summer. They then saw, as many others have seen, that a great deal of active investigation has been, and still is, going on there in connection with agriculture; and I have little doubt they felt some disappointment, as I know others have done, at not being able to see very clearly the direct practical lessons to be learnt from the results of so much labour. If their thoughts were put into words they would probably say, "You have made very interesting experiments on various crops, both with ordinary and with artificial manures; you have conducted numerous experiments on the feeding of stock, and you have a laboratory containing nearly 20,000 bottles; but we wish you to understand that we take no special interest in these things, excepting so far as they relate to our business. We are farmers; our capital is invested in the cultivation of the soil, and the welfare of ourselves and of our families depends upon the profits we can realize. We want to know how, if you were a farmer, with no other source of income, you would use your knowledge to increase your profits; or rather, how, if in addition to our practical knowledge we possessed all the information which you have acquired from your scientific experiments, should we alter our practice to increase our profits?" I take it that, in arranging for this evening's discussion, the Maidstone Farmers' Club hoped, by its means, to arrive at some solution of the above questions. When we consider that the system of agriculture practised by the most intelligent farmers of any district, has been the result of long observation and experience, it must be admitted that any important changes suggested by science should, as far as possible, be based on a knowledge of the principles involved in the existing practices. For example, those who would propose to interfere with the ordinary course of rotation, by substituting a corn-crop for a pulse or a root-crop, may reasonably be asked, not only what description and amount of manure will be required to grow the corn crop? but also, what will be the relative state of fertility in which the land will be left when the one crop has been substituted for the

other? Again, if it be proposed to use artificial manures, instead of producing ordinary manure by the feeding of stock on cake or other purchased food, it is obviously desirable to possess accurate knowledge—not only as to the description and amount of artificial manure required to produce a given crop, but also as to the amount of meat, and the amount and composition of the manure, that will be yielded by the different descriptions of purchased food. Now, I propose to show you, by one or two examples, how much labour and how much money the investigation of subjects having a direct bearing on the practice and profits of agriculture may require before absolute certainty can be arrived at respecting them; and I could, without difficulty, occupy the whole of the time of this meeting in pointing out the various subjects which have been, and still require to be, investigated by men of science, before long established existing practices can be thoroughly explained. I dare say most of you know that the atmosphere which we breathe is composed almost entirely of a mixture of nitrogen and oxygen. The nitrogen constitutes more than three-fourths of the whole by weight, and the quantity of it resting upon every acre of our fields, amounts to more than 32,300 tons. All the crops we grow contain nitrogen, some in larger and some in smaller quantity. Nitrogen is, also, as you well know, a very active and a very expensive element in manures, costing when purchased in artificial manure not much less than one shilling per lb. Accurate knowledge in connection with this substance is, therefore, of the greatest possible interest to the farmer. As all our crops are so dependent upon nitrogen in their food, and as they are surrounded by so large a store of it in the atmosphere throughout their growth, what could be more natural than to suppose that they obtain it from that source? What investigation could be more important than to determine whether they are able to do so or not? and, if they are, to settle to what extent they do so, or by which of them, or under what circumstances, the largest quantity of it can be assimilated. In fact, one of the explanations which has been put forward of the benefits to be derived from a rotation of crops is, that whilst some plants can absorb the nitrogen of the atmosphere, others cannot do so. Here, then, is a question for scientific investigation "with a view to profit;" and what do we find has been done to arrive at a solution of it? Nearly a century ago, Priestley and Ingenhousz came to one conclusion on the subject from their experiments, and Sennebier and Woodhouse to an opposite one from theirs. About the end of the last century and the beginning of the present one, De Saussure took up the question; and, a little more than thirty years ago, Boussingault, one of the most laborious and accurate of living chemists who have devoted themselves to agricultural subjects, commenced the inquiry, and renewed it from time to time, for a period of about twenty years, he arriving at one conclusion, and M. G. Ville, another French chemist, who worked at the subject for many years, coming to an opposite conclusion. Besides these, minor investigations have been undertaken by Méne, Roy, Cloez and Gratiolet, De Luca, Harting, and Chlebodarow and Petzholdt, with considerably varying results. Lastly, the field and other experiments at Rothamsted having shown how important was a definite set-

tlement of this question, and, considering how conflicting was the existing evidence bearing upon it, the investigation was undertaken there, and a very intelligent young American chemist, the late Dr. Pugh, was engaged upon the subject, at the Rothamsted Laboratory, for nearly three years. Well, the result of all this expenditure of time and money, extending over a period of more than three-quarters of a century, is a balance of evidence in favour of the view that the free nitrogen of the atmosphere cannot be assimilated by our crops. One more illustration, and I have done with this part of my subject. It may be taken as an established fact, that if the price of the hay, cake or corn, and roots, which the farmer gives to his oxen and sheep, or of the meal which he gives to his pigs, be charged against the animal, the cost of the food will be more than the increased value in the shape of meat. To show a profit upon the feeding transaction, it is necessary to charge a portion of the cost of the food against the manure obtained. It is, however, quite possible to keep land in high condition for growing corn, without the manure produced by feeding stock. Whether it will be the more advantageous to attain the end by the production of meat and of animal manure, or by the use of artificial manures, is entirely a question of cost, depending on the character of the land, the prices of meat and corn, and the relative cost of certain constituents in cattle manure, and in artificial manures. But, obviously essential elements in the inquiry are—what proportion of the various constituents of the purchased cattle food will be obtained in the form of meat?—what proportion will be expended or lost by the respiration and perspiration of the animal?—and how much will remain as manure? Let me put a case to illustrate the point in question. 1 cwt. of rape-cake will cost six shillings, and 1 cwt. of linseed-cake about twice as much. If applied at once to the soil, these two substances would be of very nearly the same value as manure. Both would supply about 8 lbs. of mineral matter, and about 90 lbs. of organic matter, containing nitrogen equal to about 6½ lbs. of ammonia. But the linseed-cake is first employed for the feeding of stock, and the questions arise—how much of the above constituents will go to form increase? how much will be expended or lost by the vital processes of the animal? and how much will remain for manure? Now, these points can only be settled by very laborious scientific investigation. I could give you a long list of the names of those who have experimented upon one or other branch of the inquiry; and the subject, in one or other of its aspects, has been under experiment at Rothamsted, from time to time, for more than twenty years. Well, it may perhaps safely be assumed that, of the total dry or solid matter of the linseed-cake, not more than 10 per cent., and of its total nitrogen not more than 5 per cent., will be retained by the animal as increase. Of the total solid matter, however, a large proportion will be expended by the respiration of the animal; leaving, in fact, only about 25 or 30 per cent. of the whole as manure. But the essential point whether, besides the small proportion of the nitrogen of the food which is stored up in the increase of the animal, another portion is expended and lost by respiration and perspiration, or whether the whole of that which is not retained by the animal remains for manure, can hardly be said to be absolutely settled. The balance of the evidence is, however, in favour of the view that there is no loss of the nitrogen of the food excepting that which contributes to the increase of the animal, and that which may be due to the decomposition of the manure after the animal has produced it. I have brought forward these illustrations to show you how much time, labour, and money must be expended in scientific inquiry, before some of the most fundamental practices of agriculture can be thoroughly understood; and before, therefore, the £ s. d. standard of calculation can be rigidly applied to them. Whilst, however, much remains to be done before we can discuss some important branches of the science of agriculture “with a view to profit,” we can, I think, in the mean time, learn much from the results of field experiments, if conducted on a sufficiently large scale, for a sufficient length of time, and with due regard to accuracy. I believe the experiments at Rothamsted meet these requirements: and I now propose to consider how far the results of some of them are applicable to agriculture “with a view to profit.” Among the results of the Rothamsted field-experiments there is one fact which stands out with the greatest possible prominence; viz., that certain substances, which constitute a very small

proportion of the crops, exert a very striking influence on their growth when employed as manures. Thus, nitrogen, in the form of ammonia-salts, or nitrate of soda, used in admixture with superphosphate of lime, and applied to the Rothamsted soil when in an agricultural sense in a state of exhaustion—that is when it is unfit to grow another grain-crop without manure—will yield a full crop of corn; and, with a repetition of the manure each year, will continue to do so for many years in succession. For example, a mixture of 300 lbs. of superphosphate of lime, and 200 lbs. of ammonia-salts, applied every year for nineteen years, has yielded almost exactly the same amount of barley as 300 lbs. of superphosphate of lime and 1,000 lbs. of rape-cake, or as fourteen tons of dung, applied annually for the same period. Each of the three has given an average of about forty-eight bushels, or six quarters of barley, and about 28 cwts. of straw. Nitrate of soda has not been used in similar combination for so long a period; but it may be assumed, that if, instead of the 200 lbs. of ammonia-salts, 275 lbs. of nitrate of soda had been employed every year with the superphosphate of lime, almost identically the same result would have been obtained. Now, let us compare the quantity of certain constituents in forty-eight bushels of barley, and its straw, with that of the same constituents contained in the above-named different kinds of manure which will produce it. The following table illustrates the point:

	Dry organic matter.	Mineral matter.	Nitrogen.
	lbs.	lbs.	lbs.
6 qrs. barley and 28 cwts. straw	4,566	196	56
14 tons farm-yard manure	8,540	868	200
1,000 lbs. rape-cake	810	80	50
200 lbs. ammonia-salts	—	—	41
275 lbs. nitrate of soda	—	—	41

Thus, of dry organic matter the crop would contain about 4,566 lbs., or rather more than two tons. Of such substance the annual dressing of dung would supply nearly twice as much, and the rape-cake not one-fifth as much as the crop contained; whilst the ammonia-salts, or nitrate of soda, would supply none at all. Of mineral matter, again, the dung would annually supply very much more, and the rape-cake very much less than the crop contained. Of nitrogen, too, the dung would contain from three to four times as much as the crop; whilst neither the rape-cake, the ammonia-salts, nor the nitrate, would contain as much as the crop. Practically, then, we obtain the same quantity of corn and straw whether we supply much more or much less organic matter than the crop contains, or even none at all. In fact, more than 90 per cent. of the really dry substance of the crop may be derived, either directly or indirectly, from the air and water, and not from the substance of the soil itself, or of the manure. A similar result is brought out even more strikingly in the experiments on the continuous growth of wheat. To one plot in the experimental wheat field, 14 tons of farmyard dung per acre have been applied annually for 27 years in succession; but the amount of produce yielded by it is exceeded by that from mixtures of mineral and nitrogenous manure, supplying no organic matter whatever. It may be considered established, then, that at any rate in the case of moderately heavy soil such as at Rothamsted the only manures required for the production of good corn crops for a number of years in succession are such as will supply certain mineral constituents, and nitrogen, the latter either in the form of ammonia-salts, or nitrate of soda. Referring again to the results with the barley, I wish to recall your attention prominently to the fact, that the 14 tons of farmyard manure, which gave only the same amount of produce as the mixture of superphosphate of lime and ammonia-salts, or superphosphate of lime and nitrate of soda, not only supplied large quantities of organic and mineral constituents of which the artificial mixtures contained none, but it also supplied probably between four and five times as much nitrogen as either of the artificial mixtures, and yet only gave the same amount of crop. The salts of ammonia supplied 41 lbs. of nitrogen in the form of ammonia; the nitrate of soda also 41 lbs. in the form of nitric acid; and, for some years, an amount of ammonia-salts containing 82 lbs. of nitrogen was applied to one series of plots, but this was found to be too much, the crop

generally being too heavy, and laid. Yet, probably about 200lbs. of nitrogen was annually supplied in the dung, but with it there was no over-luxuriance, and no more crop than where 41lbs. of nitrogen was supplied in the form of ammonia or nitric acid. How is this to be accounted for? The answer to this question must be, that the activity of vegetation does not depend alone upon the mere amount of the required constituents provided within the soil; but very materially also on the state of their combination, and distribution, being such that they can be taken by the growing plants. Only a comparatively small proportion of the nitrogen of the dung exists as ready-formed ammonia, and the remainder only very gradually passes into that state of combination. Hence it is that dung is found to be what is considered by some so desirable, namely, a lasting manure; that is to say, a manure which only yields up its fertilising constituents very slowly. Salts of ammonia and nitrate of soda are, on the other hand, both very soluble in water; but, when applied as manure, the ammonia of the ammonia-salts is much more readily absorbed and retained by the soil than is the nitric acid of the nitrate. The latter, consequently, distributes more rapidly, and is more liable to be dissolved by heavy rains, and washed into the drains, or the subsoil; though a portion of the ammonia of the ammonia-salts itself becomes converted into nitric acid, and then is subject, in like manner, to loss by drainage. The farmer has, therefore, to deal with that very important constituent of manure—nitrogen—in very different conditions of combination, in which it acts very differently when applied to the soil. It is probable that when the re-actions of these various descriptions of nitrogenous manure on different descriptions of soil have been more carefully investigated, and are better understood, some considerable saving may be effected in their use. At Rothamsted, in the experiments on wheat less, and in those on barley not much more than half of the nitrogen supplied as ammonia-salts or nitrate of soda is recovered as increase of produce in the first crop; and only from one-sixth to one-fifth of that which is supplied in the form of dung is so recovered. Our attention is now directed to this subject, and experiments are in progress to determine whether a reduced amount of these valuable manures will not yield an equal result, if applied more carefully in close proximity to the growing plant. Taking, however, the Rothamsted experiments as they stand, let us now examine what results they give when brought to the standard of profit and loss. In the barley field the average annual produce obtained by the annual application of 300lbs. of superphosphate of lime, and 200lbs. of salts of ammonia, or instead 275lbs. of nitrate of soda, has been, as already stated, about 6 quarters, or 48 bushels of dressed corn, and 28 cwts. of straw. As the supply of nitrate of soda in the market is much greater than that of the ammonia-salts, I will adopt the nitrate as the basis of calculation. We have then the cost of the crop per acre, approximately as follows:

	£	s.	d.
275 lbs., or say 2½ cwts., nitrate of soda, at 16s.	2	0	0
2½ cwts. superphosphate of lime, at 5s.	0	13	9
Sowing manure	0	1	6
Rent, tithe, and rates	1	15	0
Ploughing	0	10	0
Scarifying	0	3	0
Harrowing	0	4	0
Rolling	0	2	0
Drilling	0	2	0
3 bushels seed, at 4s. 3d.	0	12	9
Hoeing and weeding	0	7	0
Harvesting	0	10	0
Thrashing and dressing, at 2s. per quarter	0	12	0
	£7	13	0

The above may be considered as a close approximation to what would be the annual cost of growing a crop of Barley for a number of years in succession, at Rothamsted.

On the other side of the account we have—	£	s.	d.
6 quarters of dressed barley, at £1 16s. per quarter	10	16	0
3 bushels of offal barley, at 2s. 6d.	0	7	6
28 cwts. of straw, at 1s.	1	8	0
	12	11	6
Cost of crop	7	13	0
Profit per acre	£4	18	6

I will next call your attention to a few of the experiments on the continuous growth of wheat. The first crop of the series was harvested in 1844, and the 28th in succession is now growing. Omitting the results of the first eight years—1844 to 1851 inclusive—when the manures were not exactly the same as they have been since, we have, as in the case of the barley, a period of 19 years—1852 to 1870 inclusive—during which the same manures have been applied to the same plots year after year. Plot 5 has received each year a mixture of salts of potass, soda, and magnesia, and superphosphate of lime; Plot 6 the same mineral manures as Plot 5, with 200 lbs. of ammonia-salts per acre; Plot 7 the same mineral manures, and 400 lbs. of ammonia-salts per acre; and Plot 9 the same mineral manures, and 550 lbs. of nitrate of soda per acre. The following are the average results over the 19 years:

Plots.	Manures.	Aver. Produce.	
		Dressed Corn.	Straw.
		Bush.	Cwts.
5	Mixed Mineral Manure, alone.....	17	15
6	Ditto do., and 200 lbs. am. salts.	27	25
7	Ditto do., and 400 lbs. am. salts.	36	36
9	Ditto do., and 550 lbs. nit. soda.	37	41
2	14 tons Farm-yard dung.	36	34

Thus, the mixed mineral manures alone give, over 19 years, an average annual produce of wheat, of 17 bushels of corn, and 15 cwts. of straw per acre. The addition of 200 lbs. of ammonia-salts per acre to the mineral manures gives an increase of 10 bushels of corn, and 10 cwts. of straw; the addition of 400 lbs. of ammonia-salts to the mineral manures gives an increase of 19 bushels of corn, and 21 cwts. of straw; and the addition of 550 lbs. of nitrate of soda to the mineral manures gives an increase of 20 bushels of corn, and 26 cwts. of straw. The farm-yard dung, on the other hand, gives the same amount of corn, but 2 cwts. less straw than the mineral manures and 400 lbs. of ammonia-salts; and 1 bushel less corn, and 7 cwts. less straw than the mineral manures and 550 lbs. of nitrate of soda. It is evident from these results that, in the case of moderately heavy land like that of the experimental field at Rothamsted, full crops of wheat may be grown for many years in succession, by means of the annual application of certain mineral constituents, with ammonia-salts, or nitrate of soda, in addition. Taking, again, the cost and result with nitrate of soda as the basis of calculation, the following will be the money account per acre of the experiment on the continuous growth of wheat:

	£	s.	d.
550 lbs., or say 5 cwts., nitrate of soda, at 16s.	4	0	0
Salts of potass, soda, and magnesia	2	10	0
2½ cwts. superphosphate of lime, at 5s.	0	13	9
Sowing manure	0	1	6
Rent, tithe, and rates	1	15	0
Ploughing	0	10	0
Scarifying	0	3	0
Harrowing	0	4	0
Rolling	0	2	0
Drilling	0	2	0
2 bushels of seed, at 6s.	0	12	0
Hoeing and weeding	1	0	0
Harvesting	1	0	0
Thrashing and dressing, at 2s. per quarter	0	9	3
	£13	2	6

On the other side of the account we have—

	£	s.	d.
37 bushels of dressed wheat, at 6s.	11	2	0
2½ bushels of offal corn, at 2s.	0	5	0
41 cwts. of straw, at 20s. per load 1,296 lbs.	3	10	10
	14	17	10
Cost of the crop.....	13	2	6
Profit per acre	£1	15	4

There are several reasons why the results with the wheat are

not so satisfactory as those with the barley in point of profit. The crop is much more costly to keep clean; and, as you will see, I have charged seven shillings for hoeing an acre of barley, but twenty shillings for hoeing and cleaning an acre of wheat. Again, for a given weight of corn, there is nearly one-and-a-half times as much wheat-straw as barley-straw; and with the winter-sown and stronger straw crop, we are enabled, in the average of seasons, to ripen a greater weight of total produce. The result is that, to obtain a full crop of wheat, we have to employ about twice as much ammonia-salts, or nitrate of soda, as is required to yield what may be called a corresponding crop of barley. Thus 48 bushels of barley and 36 or 37 bushels of wheat may be taken as of nearly equal money value; but to grow 48 bushels of barley we have used only 200lbs. of ammonia-salts, or 275lbs. of nitrate of soda, producing at the same time only 28 cwts. of straw; whereas to get 36 or 37 bushels of wheat, we used 400lbs. of ammonia-salts, or 550lbs. nitrate of soda, and produced about two tons of straw, withdrawing of course, at the same time, much more mineral matter from the soil. It is obvious that in growing wheat or barley year after year by the manures above described, and removing both corn and straw from the land, the exhaustion of mineral constituents will show itself sooner in the case of wheat than in that of barley. Hence it is that, in the wheat account given above, there is the heavy charge of 50s. for salts of potass, soda, and magnesia, whilst there is no such charge against the barley crop. The amount of those salts annually used in the particular experiments quoted was, it is true, considerably more than would be required to compensate for the exhaustion by the increase of crop obtained. It must be distinctly borne in mind, however, that the Rothamsted experiments are not arranged with a view to providing direct examples of profit. At the same time, the fact is clearly brought out that more money must be expended on nitrogenous manures to yield a given money-value in wheat-grain than an equal value in barley-grain. Calculations show, indeed, that, of a given amount of the expensive constituent nitrogen supplied in manure, a larger proportion is taken up from the soil by the barley than by the wheat crop. To conclude, in regard to the wheat experiments, I am sure you will agree with me that the fact of having removed 27 full crops in succession from the same land, is one of the greatest possible interest and importance, as showing what constituents must, and what need not, be applied to the soil for the successful growth of the crop. But, although the growth of wheat under such circumstances may require the employment, as manure, of expensive constituents, such as potass, it is by no means to be concluded that such manures would be requisite under the very much modified application of the system of more frequent corn-growing, which could alone be followed in farming "with a view to profit." As the experiments on the continuous growth of oats, at Rothamsted, have as yet only extended over two seasons, I will not occupy your time by following up the illustration as to profit in regard to that crop. The land devoted to the experiments was dunged for beans in 1864, it then grew wheat in 1865, beans in 1866, and wheat in 1867 and 1868, all without manure; and the first experimental oat-crop was taken in 1869. In regard to the results, it will suffice to say that the same mixture of superphosphate of lime, salts of the alkalies, and ammonia-salts, or nitrate of soda, as was employed for the wheat (on plots 7 and 9 respectively), gave in the favourable season of 1869 about 70 bushels of oats, and about 50 cwts. of straw, and in the unfavourable one of 1870 about 50 bushels of oats and 28½ cwts. of straw. I will now direct your attention to some experiments on rotation. In one field at Rothamsted an experiment on rotation or crops has now been carried on for nearly twenty-four years. The course followed is—turnips; barley; clover, beans, or fallow; and wheat. On one portion the swedes are very highly manured with a mixture of rape-cake, salts of ammonia, superphosphate of lime, and salts of potass, soda, and magnesia. From one-half of this piece the whole of the swedes, both roots and tops, are carted off; and on the other half the crop is consumed on the land by sheep. The 24th crop, that is the last of the sixth course, is now growing. Omitting the first course, in which Norfolk whites and clover were grown, and the sixth, which is not yet completed, the following are the quantities of roots, and of dressed corn, per acre, obtained in the second, third, fourth, and fifth courses:

Crop, &c.	Swedes carted off the land.	Swedes consumed on land.
2nd COURSE.		
1852.....	Swedes ... 19½ tons	... 19½ tons.
1853.....	Barley ... 38½ bushels	... 35½ bushels.
1854.....	Beans ... 10 "	... 13½ "
1855.....	Wheat ... 37½ "	... 40½ "
3rd COURSE.		
1856.....	Swedes ... 16½ tons	... 17 tons.
1857.....	Barley ... 48 bushels	... 63½ bushels.
1858.....	Beans ... 12½ "	... 14½ "
1859.....	Wheat ... 39½ "	... 38½ "
4th COURSE.		
1860.....	Swedes ... 4½ tons	... 13½ tons.
1861.....	Barley ... 60½ bushels	... 54½ bushels.
1862.....	Beans ... 43½ "	... 41½ "
1863.....	Wheat ... 46½ "	... 44½ "
5th COURSE.		
1864.....	Swedes ... 8½ tons	... 8½ tons.
1865.....	Barley ... 47½ bushels	... 43½ bushels.
1866.....	Beans ... 20½ "	... 24½ "
1867.....	Wheat ... 23½ "	... 31½ "
SUMMARY—AVERAGE OF THE FOUR COURSES.		
1852, '56, '60, '64...	Swedes ... 12½ tons	... 12 tons.
1853, '57, '61, '65...	Barley ... 48½ bushels	... 49 bushels.
1854, '58, '62, '66...	Beans ... 21½ "	... 23½ "
1855, '59, '63, '67...	Wheat ... 36½ "	... 36½ "

Thus, the average produce of swedes was about 12 tons of roots, and there were besides about ½ ton of tops. The manures applied to each crop of turnips, if they had been employed directly for barley, would have been sufficient to grow three crops of about 6 quarters each; that is, in all, 18 quarters of barley. Yet, we find that the average yield of the rotation where the whole of the roots were consumed on the land, was almost exactly the same as where they had been carted off. The condition of these two plots must, however, have been very different. The amount of nitrogen, alone, returned to the land by the stock consuming the turnip crop, would probably be equal to that contained in between 400 and 500 lbs. of nitrate of soda. From the results of these experiments we may learn: 1. That the growth of the root-crop did not of itself contribute anything to the fertility of the land. 2. That the treading of the land by the stock was injurious to the succeeding barley-crop. 3. That it is not alone the quantity of manurial constituents applied, which determines the amount of the crop; but that the effect depends very much upon the condition in which the constituents exist within the soil. A careful consideration of these results, and also of those of experiments in which swedes have been grown year after year for many years in succession on the same land, leads me to the conclusion, that on the heavier class of soils, where the treading of sheep is injurious, the turnip crop, if not out of place, might at all events with advantage occupy a much less proportion of the area of the farm than it usually does. There are many and obvious reasons why it would be impracticable to devote the whole of the arable land of a farm to the growth of corn; and if I were farming with a view to profit alone, I should not attempt to do so. But, taking as a basis the facts that, on moderately heavy, and heavy land, full crops of wheat, barley, or oats, may be grown with certainty for some years in succession, by means of artificial manures containing soluble phosphate, and nitrogen in the form of ammonia or nitric acid, and that the increased produce obtained by these manures is remunerative, I should certainly devote a much larger proportion of my land to corn than is usual in the district. To give an example of what I have done in this direction, I may mention that a field adjoining the experimental barley field, received a heavy dressing of dung and artificial manure for mangolds in 1866, and since then it has grown wheat, oats, barley, and barley, in succession. The last two crops of barley have each been fully seven quarters per acre; and another corn crop is to be taken from the land in the coming season. I am also disposed to give up the growth of turnips altogether; growing no other roots but mangolds, and these probably to the extent of not more than 1-15th or 1-20th of the arable land of the farm. Under this system the land for the mangolds should be manured very heavily with dung, applied partly in the autumn

and partly in the spring, and also with artificial manure at the time of sowing. It would be advisable, too, to prepare the land for the spring corn as much as possible in the autumn, by means of steam; and, of course, altogether to avoid injury by treading with sheep in wet weather. To what extent such a system would be applicable and profitable in other districts must be left in great measure to the judgment of the individual farmer to decide. In the "Report on the Farm-Prize Competition, 1870," published in the last number of the *Journal of the Royal Agricultural Society of England*, Mr. Keary condemns the system of growing more frequent corn crops, by the use of artificial manures. On the other hand, in the *Agricultural Gazette*, for November 5, and November 19, we have an account of the successful cultivation of a farm on which 330 to 350 acres of grain are grown out of a total area of 450. The whole produce, corn and straw, is sold off the farm; no stock is kept; and no meat is produced. There can be no difficulty whatever in agreeing with Mr. Keary in doubting whether, upon light soils, where the treading of sheep is beneficial, "the alternation of green and white crops can properly be departed from;" and, for my part, I do not recommend that it should be on such soils, unless under very special circumstances. I equally agree with Mr. Prout, that on soils of quite another description, both roots and stock may be more plague than profit; and, in fact, that, by means of steam, or other deep cultivation, and the judicious employment of those special fertilizers which experience shows to be advantageous, remunerative corn-crops can be grown over a larger area of the farm than is consistent with our recognised sys-

tems of rotation. Cleanliness is, however, an essential element in the profitable growth of corn; and when the land becomes foul, the corn growing should be suspended, and a fallow or cleaning crop taken. The time is past for maintaining a servile adherence to fixed systems of rotation as essential to profitable agriculture, whatever the description of the land, the intelligence of the farmer, or the local conditions of his farm. Whether we look to the greatly extended knowledge of the present cultivators of the soil, to the greatly increased command of the elements of fertility in the form of purchased cattle foods and manures, to the marvellous development of mechanical appliances, or to the increased facilities for transit and for the carriage of produce, it must be admitted that the farmer of the present day, as compared with his predecessors, has very marked advantages. And it is only reasonable to suppose, that these great changes should have a commensurate influence in modifying systems and practices which owe their origin, and their reason, to other times and to other circumstances. In conclusion: if those who farm "with a view to profit" can gather nothing else from the results of the Rothamsted experiments, they may at least learn with what certainty of result certain manurial substances may be employed for the increased production of some of the most important crops which they cultivate; and I am sure I may safely leave it to the intelligence and the judgment of those I am addressing, to decide, each for himself, how far his own particular soil, and other circumstances, will justify him in modifying his present practice in the direction I have indicated.

LAND TENURE.

At the annual meeting of the Nottinghamshire Chamber of Agriculture, in Nottingham, Mr. T. B. T. Hildyard, M.P., in the chair, the attendance of members was lamentably small, although this was fair day.

Mr. GEO. STORRE said there was a question which was very likely to come up, and that was the question of Tenant-Right. He thought it would be a very fair subject for discussion, for from what they saw and read in various quarters there was a great difference throughout the country on the way in which Tenant-Right was valued, injustice being done in some cases to the tenant and in others to the landlord, from the subject not being thoroughly understood, and from its varying so much in different places. The Lincolnshire plan appeared to be the one most generally approved, and under it the land in Lincolnshire increased in value to a great extent, and both the landlord and the tenant had been immensely benefited by it. The Lincolnshire plan appeared to be one of the most perfect, but at all events he thought it would be a very fair question for their consideration. He merely suggested these things, but there was nothing particular before them that day. He was sorry the meeting was not a larger one, for they had fixed it for the fair day in the hope that a large number of gentlemen might be able to be present.

The Rev. C. NEVILLE said a distinct class of subjects was those with which the Government had not or ought not to have much to do, and that was the relation between landlord and tenant, whether the farms should be held on leases or not, whether it should be Tenant-Right, and so forth. Many farmers had good landlords, and they felt a delicacy, which he certainly admired, in coming forward to discuss the question of leases and of the game laws, but he being a land owner need not feel any delicacy of the kind. He considered it would be a great advantage if they could have all these subjects connected with the holding of land freely and fairly discussed between landlord and tenant. He was sorry that the landlords, personally, did not take more interest in Chambers of Agriculture. He thought that by not doing so they stood in their own light, and he regretted very much that they as a class did not attend the meetings more. There were some landlords whom they could not reasonably expect to attend, but they had qualified agents who managed their estates, and it would be very easy for them to attend. If he was a large landlord, with estates all over the country, if he were unable to attend himself, he should desire his agent to be present at these meetings, to be able to speak

in his behalf, to admit what was right, to contradict what was unreasonable, and to join in a fair and free discussion of these subjects. At first sight it appeared to be the landlord's interest to let his land at 30s. per acre, and to the tenant's to get it at 25s., and their interests appeared rather opposed. At first sight, also, it appeared to be to the landlord's interest to keep a large quantity of game, and to send it up to Leamdenhall Market; and as it was injurious to the tenant to have so much game on the land, at first sight their interests again appeared opposed in that respect. He had, however, been a landowner for a number of years, and he was certain, on looking round, that their interests were really identical, or nearly so. A landlord who preserved a great deal of game, to the injury of his tenant, might go on for a time and not feel it, but in the long run he must suffer most severely, in two ways. It was impossible that any tenant would give the same rent for land that was over-run with game as he would for land on which the game was kept down in moderate proportion. Tenants were not now as they used to be a hundred years ago, when every tenant-farmer had a boy under him, and had scarcely anything to do but to grease his boots and take his hat off to his landlord. In these days, as everybody of common-sense knew, the tenant-farmers of the country were in a great measure educated men, and were as far superior to what the country squires were a hundred years ago as could possibly be. If a landlord had his farm over-run with game, he must lose that class of tenant, for there was not only the damage that the game did, but there was the effect which that damage had on a man's mind. No man could farm well unless he took a pleasure in it; and what man, therefore, could possibly farm when he saw a lot of hares and rabbits eating up his corn? If they gave him compensation, no one could well know how much to give, and even if they did this a man still did not take the same pleasure in his farm as he would do if he gathered in his crop and made the best he could of it. If the landlord persisted, therefore, in over-stocking his land with game he must, in the long run, drive the best tenants from his estates. The question of leases was also a very serious and a very complicated question, and it could be freely and fairly discussed with considerable advantage. The valuation was generally done by the agent, and his opinion about an agent was, that he ought to be a third man—an umpire. If an agent said "my employer has £20,000 a year, and he wants to get £25,000 more, I must get it for him," he was a

had man, and not fit for his position. He was a good agent who said, "It is true you want more money, but this farm is too poor to pay so much." Referring to the question of leases, if a landlord let his land at say 25s. per acre, and in the course of a short time, in consequence of some gold discoveries or something of that kind, the price of corn doubled, he could not expect the tenant to come to him and to say in consequence of the change the land is worth 50s. per acre; but, on the other hand, supposing the price of corn fell very considerably, or the rates rose very much, the landlord must either sit still until his tenant was ruined and then alter the rent, or else, when the tenant failed, he must try to get another and break him, and so on, which no landlord ought to do. A difficulty consequently arose because the lease seemed to bind one party and not another. Taking a farmer's view of the question, he found that men who were farming well, and who had a deal of capital invested in their farms, were, in some cases, liable to receive notice to quit next Lady-day. That was not a position in which a tenant-farmer of that character ought to be in. There ought to be some means of giving proper security to a tenant who was farming highly. One way of doing it was by means of leases about which there was a difficulty, and the other was by Tenant-Right. The best plan he considered, however, was for the landlord to do the whole of the requisite improvement, and he had told his tenants never to invest a shilling on a permanent part of their farms. They had better let him do the whole and pay him a reasonable interest, for he was convinced that it was a bad plan for tenants to be encouraged to sink their capital in draining and improving an estate. This was, of course, a question for discussion, but he could not but think that the more secure a tenant could be made in his holding as long as he farmed it well and paid his rent the better it would be for the landlord, and the more happy and comfortable and independent the position of the tenant the better for the estate. It had been said that a good landlord was the best security. There might be some weight in that argument, but they must remember that if they had a good landlord they did not know what the next might be, and as far as that went the security might terminate by the breaking of a railway spring. Liberality was a great thing in landlords, but it was no use if the landlord had not got a sixpence in his pocket. He held, therefore, that the best landlord that could possibly be was not sufficient security for the tenant. The plan that he suggested for Ireland was that every tenant on receiving notice to quit should have power to call in a court of Equity and to receive what was equitable and right. As there was nothing that he would propose for Ireland that he would not submit to himself, if at any time any tenant of his thought he was injured and pressed upon, or that he was turned out of his farm before he had had time to get back what he had put upon it, he should be willing to go to Lincoln market and to choose five respectable tenant farmers and leave it to them, and pay every shilling that they said was due. He thought that the subjects to which he had

referred would form good subjects for consideration, and advantage might arise if they were only freely and fairly discussed.

Mr. BEARDALL said that the prosperity of English farming, and the high state of culture in which the land was, was not in consequence of yearly tenancy, but in spite of it. If farm leases were generally adopted by the great bulk of land-owners in the country, land would be worth more than it was, and the remuneration which tenant-farmers would get would be considerably increased. In the lowlands of Scotland the great bulk of the farmers were men of capital, and the farms being let on leases, they could offer better rents, because it answered their purpose to farm in a more expensive way than yearly tenants dare farm.

Mr. WALKER thought that the less they disturbed the rights of private property the better, as it might lead to complications which would not suit the tenant-farmer as a floating capitalist, any more than it would the landlord as a fixed capitalist. He looked on the landlord as the natural farmer of the land, between whom and the consumer the tenant farmer came in, and he ought to be treated fairly and justly so that his floating capital should not be subject to loss. It would not, he thought, be subject to loss if he was always allowed to have so much notice and it was to be allowed to expire on the same system as that on which the land was farmed.

Mr. GILBERT, (Barnby) said he thought that, besides considering the subjects of the malt-tax and local taxation, they might discuss the working and administration of the present poor laws in agricultural districts. There were also several other subjects which could be taken up with advantage.

Mr. BEARDALL observed that they had discussed the question of local taxation until it was almost threadbare, and he deprecated the idea of the Chamber being tied down to one subject.

Mr. HUSKINSON, who had suggested the subject, said that being a new member of the Chamber, he was not aware of all that had been done.

At the dinner, which followed, the Rev. C. NEVILLE said the happiness and comfort of fifty tenants and their families was of more consequence than one landlord, and he thought, therefore, that the tenant ought to be considered. But tenant-farmers should also remember that the welfare of ten labourers was of more consequence than of one tenant-farmer. Politics made no difference to him in the treatment of his tenantry, and he once learnt a lesson in that respect from a Tory—the late Sir Tatton Sykes. The baronet was mentioning his dislike to one of his tenants who was "conceited and a Radical." A great Conservative agent who was present thought he had a fine field for action, and said Sir Tatton really ought not to have such a tenant. Sir Tatton, however, replied, "I cannot give him notice to quit, because he can grow better turnips than I can, and I can smell his guano a mile off. I don't like to meet him because I am afraid he will give me notice that he shall leave, because I'm a Tory."

FOOD FOR STOCK.

At the monthly meeting of the Swindon Chamber of Agriculture, at Swindon, Mr. JAMES BEAVEN, in the chair, said Mr. Pinniger was a man of large and varied experience. He was the owner of an extensive herd, not only in this district, but also in London, and having to provide for so many head of stock peculiarly qualified him to speak on the subject set down for discussion.

Mr. CHARLES PINNIGER said the unprecedented dry season of 1870, which has just passed away, will not I imagine be soon or easily forgotten amongst us. Even the youngest in our midst will be able to relate in after years what one did to get food for his cattle; what another did for water for the same; and how all so ardently longed month after month for rain, and still none came of consequence all the summer or autumn long. From the record of the amount of rain I hold in my hand, I find the fall of rain for the twelve months has only been 19 inches 99 parts, the average for the twelve years past being very near 28 inches for the same period. The months of April, May, and June were exceedingly dry, only 1

inch 89 parts of rain falling during those months, and those in which our hopes principally depend for our hay crop. The drought which set in as early as the middle of March, has continued with but little intermission up to the present time, and even on the 9th day of January, 1871, we find many of our ponds which were quite dry in the middle of summer, and were newly cleaned and dug out, nearly empty, and the ditches, which are usually at this season full to overflowing, are now comparatively dry. The natural consequence of such a very long term of drought has been to absorb all the farmer's profits and a very great deal of his care too. One friend informs me he is nine tons of cheese short of his usual make, which, reckoned at £70 per ton, amounts to £630. The pastures in these and adjacent valleys, usually so rich and fertile, were suddenly brought to a standstill, and vegetation at the time when the hope of the husbandman is on the alert for the return of summer was at once cut short by cold, cutting easterly winds, with a total suspension of any rainfall of importance for many months together, with the certain result of

the loss of our hay crop, as well as the equally calamitous prospect of starvation of our herds and our flocks. As I said before, these pastures, deemed so fertile and productive induced the yeoman to hope he might venture to lay stock on it thickly, with a view of profits to meet the heavy demands on it of rent tythes, rates, taxes, and labour, and experience of former years has generally borne him out in his expectations. This very exceptional year has doomed him to disappointment and dismay, and here we are at the present time with our usual number of cattle (for to sell out would be more disastrous), our stock of provender for them of the most meagre description, and our hay-stacks a thing of the past. I have myself five stackyards, where I usually put a hay rick, but which now have none at all in, and another or two would be nearly the same but for a little left of the previous year's growth. Our hopes, then, of getting through this severe winter without a very heavy outlay of money or ruin of our cattle are faint indeed, and may well induce a meeting such as this to consider what under the circumstances is best to be done, or, as our text says, "How best to economise and make the most of what we have." There is one consolation under it. It is generally, I believe, admitted our crop of straw is nearly, if not quite, an average one. More particularly is this the case of wheat-straw, the quality of which is first-rate; so much so we scarcely ever knew it so good, and here in a great measure must be our dependence for the saving of the lives of thousands of our cattle, and sheep too. Well, then, how best to consume so as to make the best of this very valuable material is the question each one appears to be asking the other, and on which each one is desirous of being better informed. That there is a mode of rendering straw really nutritious there is but little doubt; at all events, we can so supplement it with other matter that it can be made an exceedingly valuable adjunct to our usual resources. Indeed, I must say I have positive proof of it daily before my eyes. But as our esteemed friend, Joseph Reynolds, of Gloucester, on a similar discussion to this, once hinted to the Chamber, it is not by putting out your cows for 12 weeks on board wages in other persons' yards at 1s. 6d. per head that you will succeed. But the best method appears the most difficult one to arrive at. Some gentlemen informed me that the farmers in the neighbouring county, diluted or moistened their wheat straw cut into chaff for the cattle with cider, having had a very bountiful crop this season. Another informs me that in another county farmers cut up their wheat and other straw and mix with it a quantity of salt and lay it up in store for winter when it comes out a really fattening substance. This may, to a certain extent, be a palatable, but, I imagine, not very nutritious food. Another gentleman informs me he cuts his straw into chaff three quarters of an inch in length, and sweetens it with treacle and water at the rate of one pound of the former to each animal per day, and this with satisfactory results. I am very fearful in instances like this; the palate of the animal is better pleased than the system is fed, and the belly of the animal is made to grow big while the back grows very thin. Another gentleman assures me his cattle do exceedingly well on cut straw and 4lb. of palm-nut meal each per day, at £8 per ton, spread over the chaff, the straw cut the same lengths as in former cases. Now this must be a very cheap mode, and will well compare with any one I have met. I am not quite sure if he informed me whether his cattle were in-calf cows or barren stock. Much, however, is involved in this. With our dairy cows within four, six, or eight weeks of their calving time, the same dry husky food they did on three months ago they can barely subsist on now—that is if you wish to keep the back of the animal big, the twist full and plump, and the cow strong and vigorous to bring forth her young in due season and healthfulness. Now if this mode of 4lb. of nut-meal will effect all this, which, permit me to say, I very much doubt, it must be economical, because 4lb. of this preparation at £8 per ton will cost only 4d. per day or about 2s. 3d. per week, in addition to 2 cwt. of cut straw at 3s., which makes it up to 5s. 3d. each per head per week. Supposing that ten cows will eat 24 bushels of chaff or 1 cwt. of straw cut with a very little hay each, in addition to 4lb. of cake, this gentleman would get his cattle kept on palm-nut meal and cut straw at the price of 5s. 3d. each per week, which would be very cheap. Another gentleman, whom I consider a first-rate manager of dairy cows in winter, assures me he cannot in any season do it at less than 5s. per head; he says to do

your cow justice during the time of her rest eight or ten weeks she should have two cwt. of good useful sweet hay, which at the spending price, £2 10s. per ton, comes to the money. If you give half straw cut with it, you must make it up to her in cake, meal, or some other nutritious matter. Now, if instead of two cwt. of hay I give 1½ cwt. of straw at 3s., half cwt. of hay at 2s. 3d. (spending price £2 10s.) and a quarter of a cwt. of cake per week, I expend 8s. 4½d. per week. This looks a startling sum for 70 or 80 cows—it amounts for 80 cows to £34 per week, or very near it. But we now come to matters of fact. My friend, whom I will call A 1, informs me he has put off all his older cows to his arable farm at straw with one bushel of roots and 2 lbs. of cake per day, and this costs him, to receive anything for his straw, 6s. 6d. per head. Then he informs me he keeps his 45 grazer cows at home on cut straw and hay, half of each, moistened with porridge made of one bushel of linseed to 60 gallons of water, with the addition of 100 lbs. of pea and barley mixed and strained over the mass sufficient for two days or at the rate of a trifle more than 6 lbs. of meal per day to each cow. Now this, without hay and straw, costs 2s. 3d. per week or the cost of hay at 4s. 6d. spending price, and same of straw at 1s. 6d. comes to just 8s. 3d. each cow. These he says are just his youngest cows; for the older ones it would be scarcely enough. One thing must be borne in mind. For this mode of feeding he has capital premises and arrangements for doing it in this way. As he is a very methodical man, I get facts and figures from him correctly. One thing he says, he considers 2 lbs. of cake per day would be equal in nutriment to his gruel, &c., at a little more cost and a great deal less trouble, or very nearly 9s. per head each. I find our cows in the London dairy kept well on hay, grains, roots and cake, cost 12s. each per week. Another young friend on a farm of first-rate land, number of cattle much as usual, cows very poor, and looking half starved, dry ever since Michaelmas, and desirous of getting them up, is using his straw cut fine, mixed with linseed gruel, treacle, allowed to lay and get into a kind of porridge before being used. The cows eat it with the greatest avidity, and appear improving. He is pretty well off for old hay, yet he seems desirous of economising that, and his new too, by supplementing his straw, with cake, linseed, treacle, roots, and other matters. My method, though I may say I can scarcely strictly define one, has been to cut my straw and a very little hay by steam power into chaff, moistened with a little treacle, and served indiscriminately to all the stock. Two bushels of barley were boiled and thrown in with each day's mass for a time, but which we have now discontinued for other matters to make it up. In fact, I have, as I said, no definite scheme. I endeavour to watch my cattle, and by so changing and moving them about where necessary I endeavour to see all going on as well as under the circumstances we can, but we feed all indiscriminately on this chaff; the calving cows, young stock, and yearlings are indulged in extra cake, &c., as a make up with a few mangolds, and they appear to do exceedingly well. I do not see how one can classify them to different food, but I give to the classes most needing it an allowance of cake extra when required, the efficiency of which is most manifest in the way the cattle are doing compared with what they did other years when food was very abundant and no stint of it was given. I have made a few experiments in boiled linseed, treacle, &c., myself, and I am able fully to concur with the views of those of my friends I quoted before. The linseed, I believe, acts as an incentive, sweetened with treacle, to lead the animal to crave for it; though I do not see any beneficial results beyond that it helps (and this I consider a most essential thing) to assist in pushing these husky and clogging matters through the intricacies of the cow's stomach, which, to me, does not appear formed by nature to feed on the dry materials given to other of our domestic animals. I have also tried Messrs. Foster's compound, 6lb. of it against 4lb. of linseed and cotton cake mixed, on ten cows in calf. I must say I prefer the cake, though I do not notice any marked difference; they appear exceedingly fond of it. I have ordered a ton more. These and various other experiments have been tried, in all of which I have been anxiously watching for a more marked improvement than I have yet seen, prostrated as they are with this very rigorous season and the effects of the terrible infliction of the foot-and-mouth disease, from which we are barely recovered, and from which I do not expect to be fully rid of for a very long time to come. It is called by some one a ter-

rible scourge, and I fully endorse that opinion. I look upon it as one of the dairyman's greatest drawbacks, yet I do hope as we are now fully got into the swing of feeding our cattle, they look and do better than at any former time. For the last few months we seem to fully appreciate the worth of it, and have reconciled our minds to putting our hands into our pockets, to endeavour by so doing to make the most of what we have, and use to the best advantage what we have in the shape of fodder, whether for our sheep or cattle. Other friends of mine with a large stock of mangolds, pulp those and mix with their chaff or cut straw, but we all know this food wants the addition of a few pounds of cake or meal, or some other succulent food, a-day to do the animal justice, especially our cows forward in calf. Many will defend the system of giving wheat straw whole and not cut. With this I cannot possibly agree, when cattle have to get their entire sustenance from it. I am aware occasions may happen when it may be very beneficial, such, for instance, when we have a lot of old grass on the land. A little may then be eaten with it to help to fill up, and may prove of great good to cattle, as a person once said to me, "Straw may do very well if you can give them two meals of hay a-day beside." Of the different qualities of straw I am not prepared to speak very learnedly, though I think that barley or oat straw, of a light crop of say three quarters per acre, on stone brash or gravelly soils, is as good, if not better, than any other variety, either of which is no doubt very preferable to wheat straw. I think, however, from my own experience, there is a great deal of nutritive matter in bean or pea straw, or what we call "poulta," where the haulm of pea runs up the stalk of bean, which holding it off the ground avoids that dirt and filth peas in a wet season are liable to form, being so much on the ground. But all these are good, and much can be and is made of them, but they all require the addition of something of a more nutritious nature, if you intend doing justice to your cattle in the winter, or fitting your dairy cow to again resume her milk producing process with strengthened vigour. But I am inclined to think we, as a class, are apt to adopt a very parsimonious spirit to get all we can from poor Peggy, and leave her to take care of herself when her work is done, and she can do no more for eight or ten weeks in winter. The money once gone into our pocket is pulled out again with a very ill grace. I speak now for myself, and think it very hard we do not get fruitful seasons and abundant crops, and so avoid these heavy outlays for the sustenance of stock in winter, and why in the ease and jollity of our spirits we cannot every year say to our cattle, sheep, and horses, "Take your fill, eat, drink, and be merry." Yet, on the whole, I am inclined to believe these occasional dry seasons do us a vast deal of good. They tend to make us more careful of what we have, to point out to us the necessity of being more frugal in our management; to check speculation in our farms; and to observe greater economy in our products, not consuming all in an abundant season, but to lay by a store for a less productive one. The worst and most lamentable thing to me is it produces in us a sad murmur of discontent and dissatisfaction. All this I know too well myself, and I know, too, it is not our case alone. It is a national calamity. Every man who buys his pound of butter and has to pay 4d. extra for it has cause to lament it; or every man who has to pay 1½d. or 2d. extra for his piece of cheese, his beef, mutton, or bacon, may well see in it cause for discontent. Thanks, however, to our cousins in Ohio, Wisconsin, Illinois, and other States of the great Union across the water, who have sent us a good supply of cheese this season, they have much kept down the price of that article or it would have been much worse. As it is, however, the labourer, the mechanic, the artisan, or the private gentleman all feel the effects of this year of drought. Still, all would feel exceedingly thankful in contrasting our position with that of our less fortunate neighbours across the Channel, and will entertain a feeling of gratitude to the Great Disposer of all human affairs that matters are after all no worse than they are. One more word I wish to have with my young friends. It is this: Do not think too much of, or put too much dependence in, your stock of wheat straw. You have a few good-sized ricks in your stack-yard, and you fancy them almost inexhaustible. You have a great abundance there now, but nothing is more fleeting or deceptive. Why, one stack of hay of 30 tons will yield more fodder than the straw of 40 acres of wheat, and if you are very short of hay

I would advise you to purchase a little to cut up with your straw, and also spend a little on linseed, palm nut meal, barley, or peameal, so as to make the most of it, or you will find your wheat straw gone before you are aware, and then be obliged to go to the man of hay to buy, who will not forget to charge you for it when he sees you are obliged to come to him. It is a long tiresome time to wait with such scant provisions, and don't forget the old adage, "May come early or May come late will be sure to make the old cow quake." We remember the tale of the poor old Irish farmer, in a time of great distress—his hay and straw all gone, and nothing left for his poor old cow—who was lamenting it very sadly to his wife, when Biddy said, "Och John, don't ye fret John; shure I have some left for ye yet," and going into the sleeping apartment she flung out the children's chaff bed, saying, "Shure there is a store for ye yet, John; take that." Such extremities we hope not to see any of us driven to, though I am greatly mistaken if it will not be all got very close together before the usual season for grass comes round again, and the cuckoo's cheery notes usher in the commencement of returning plenty.

Mr. E. W. MOORE believed the result of the present state of things would be to lead farmers to make experiments with the view of discovering that they were not so dependent upon hay as they had hitherto thought they were. The fact was, they had all thought too much of that most expensive food for cattle—hay. They had thought too much about it, and had mown too much while they grazed too little. The present season, however, had compelled them to learn to do with less hay, and, in some cases, perhaps, to do without it altogether. What was more, he believed this lesson was being learned already, and he quoted, as a confirmation of his idea, the fact that hay was not increasing in price so much as they thought it would, and as much as it would have done had it been so generally used as formerly. This state of things was only to be attributed to practical men setting their wits to work, and by the use of artificials, as well as improved modes of preparing cattle food, relying less upon hay.

Mr. T. HEWER said he was one of those in the happy position of having a large herd to keep through the winter without having any hay, or at least only a very small quantity. He did not, however, despair, for he had plenty of wheat and bean straw, which, with a proper quantity of mangold, say half a bushel a day, also three or four pounds of palm-nut meal, and two or three pounds of cake, make up the keep of each animal per day. Very extravagant feeding it was too, as to cost, though it was not excessive in quantity. But the question was how to get on when the cows had calved, and there were no more hay ricks. In July, his pastures were very little better than a down, and he at this time gave his cows mangold leaves and straw cut up together. That food seemed to be very much liked by the stock, and did them good; and he was fortunate enough to make 3 cwt. of cheese per cow. He would venture to suggest that it would be an advantage if the Chamber could retain the services of a chemist to make analyses for the members at a reduced rate. Had there been such an arrangement he should have endeavoured to procure an analysis of mangold and mangold leaves, and thus learn the properties of each. Other members might also have other foods analysed.

Mr. J. HORTON said in the district where he lived the straw crop was not an average, the wheat being thin, and the kantar corn very deficient. He would, however, give to the meeting the result of the experience of himself and brother in endeavouring to ascertain the cheapest and best mode of keeping store cattle through the winter. They cut their straw into chaff, and then mix it with linseed gruel and meal. The quantity for each cow per day was 2lb. of linseed, ground and soaked in two gallons of water for 24 hours, then throw it over the chaff with 2lb. of meal, well mixed the day before using. The cost of each cow per week is 3s. 6d., estimating linseed at 8s. 6d. per bushel, and meal at 16s. per ten score. They gave the same to sheep, and kept them in a healthy state at 4d. per head per week. To horses for the night, after baiting, they gave more linseed and not any meal, and they very seldom heard of the horses having the gripes, which was very often the case when they ate dry provender. He could not see why farmers should pay to have the oil—which was so beneficial to the health of the stock—extracted from the lin-

seed, especially as manufacturers mixed such things as they often read were found in cake.

Mr. J. ARKELL said, while admitting the value of straw, he could not allow the merits of hay to be ignored; and, though perhaps straw had not been sufficiently valued, and might be used to greater advantage, there was nothing like a good bit of hay in the spring.

Mr. POOCK said he had spent a great deal in meal, Indian corn, linseed, &c.; he had used 20 sacks of linseed, and had to-day bought another 20 sacks and a quantity of cake. This he mixed together with rice meal. He used for each cow per day about half a peck of meal, 2lbs. of linseed, and 2lbs. of cake. He had the food prepared with care, and employed the best men he could to look after the cattle. There was just one point arising out of this state of affairs which ought not to be neglected. In spending all this money, tenants ought to feel they were doing so upon a satisfactory basis. Many farmers would be spending thousands this year in artificial food, which must improve the land; yet with some of them

this might be a complete loss as far as any future benefit was concerned, for they might get six months' notice to quit (prolonged applause). He might observe that he was a great advocate at one time for cutting chaff; he had, however, come to the conclusion that if a man had plenty of straw, it was cheaper to give the cattle four or five pounds of cake per day and let them pick the straw over, as they preferred this to eating a quantity of chaff.

Mr. T. ARKELL said he thought it better to use the straw whole, and let the cattle pick it out, spending the cost of cutting it into chaff in some useful artificial food. He further thought this was preferable to chaff, for the simple reason that animals which chewed the cud were not able to eat dry, short food like horses. There might be a little waste—that is to say some of the straw would be left by the cattle—but they would have manure, while the cattle would do better on whole straw than on so much chaff, and the labour of cutting it would be saved.

A vote of thanks was passed to Mr. Pinniger.

A DAY AT THE MELBOURNE CATTLE YARDS.

It is early morning—so very early indeed, that probably few persons wholly unconnected with live stock are moving; but at Newmarket, though the stars are still bright, though the masts of the ships in the bay barely pierce the mist in which their hulls are shrouded—all the population is energetic and alert as if three and four in the morning were the most ordinary of business hours. There are two yards or collections of yards, in the knoll, which has of late years become and been named Newmarket. In some defined relation to these “post and rail arrangements” stands every horse, dog, man, and boy—every cow, bullock, sheep, and lamb at present doing or suffering in their vicinity. These are the cattle-yards and sheep-yards respectively. All manner of lanes and by-roads from every point of the compass radiate towards Newmarket as a common centre. From these are debouching droves of cattle and flocks of sheep from every part of Victoria, and from many a plain and forest beyond the Murray. Thousands of fat sheep and lambs have come in by rail the night before, and are now moving in from paddocks where they have passed the night. The Newmarket Hotel is dispensing hot coffee, and occasional beverages of a “shorter” description, by the gallon. Weary men, with faces worn by hard weather and want of sleep, are “turning in” for a short doze, or “turning out” to begin the day's work. There is no other saleyard near Melbourne where sheep and cattle can be sold. This particular spot seems naturally adapted for the purpose to which it is devoted, and means have been taken to render it the most convenient, effective, and accessible stock mart in Australia. Nor is the landscape devoid of beauty. Eastward, at a distance of three miles, lie the spires and roofs of Melbourne. Beyond are forests, green-swarded, and, devoid of undergrowth, the blue ranges of Dandenong, and dimly distant, the snow peaks of the Australian Alps. Southward, the sun lights up the Bay of Williamstown, studded with masts and the sails of many nations. To the westward all is plain. From the spot on which we stand to where the southern surges break against the farms of Warramboul and Port Fairy, 200 miles in “a bee-line,” stretch the Western Plains, rarely broken by hill or forest. Northward, the eye, passing over many a league of park-like country, studded with farms, and wealthy in stacks and well-filled barns, rests on the bold outline of the far-known Mount Macedon. But while we are pouring out our soul in landscapes and such inutilities, see how the cattle mobs are moving on from every lane and by-way, and heading for the spacious receiving-yards. Yonder lot of splendid cattle have apparently come right through the city. Surely that cannot have been the case! It is even so. They are from Gipps Land, and since they left the rich meadows and forest parks of that favoured district have been undergoing a fortnight's purgatory (let us be mild) on the worst road for horse and man, cattle or coaches, in Victoria. They did pass through the city—through the most busy part of it, over Prince's Bridge, and straight up Elizabeth-street—after this wise: After leaving Dandenong, they prowl

about till night is well on. Midnight sees them in the suburbs. About two o'clock in the morning they arrive at Prince's Bridge. At that hour their drovers feel sure that not even a ghost of ordinary respectability is abroad. There is no shout, or cry, or crack of any whip, as with a “still and awful” demonstration the drove is “put at the bridge.” Over they go, with a slight shrinking and mutual shoudering, as they espy the gleaming river over the parapet, and before them the long, broad, lamp-lighted avenue. One or two of the party are of course ahead, to moderate pace and prevent a stampede. After a weird ghostly fashion—as of a procession of shadowy beeves, attended by the spirits of defunct stockmen—they troop up Swanston-street, crossing after a time to the great northern entrance to the city. Small is the number of wayfarers, fortunately. Coralie, homeless and reckless, gives a half gasp of fear and glides down a lane. Old Stagers, belated as usual, mutters “Fat cattle, whosh cattle at thish time night—might hurt sp-pectable people, sp-pectable people,” and subsides into gateway. Policeman X steps down an area friendly to the force. But for these apparitions, Melbourne is a city of the dead (plus gas lamps), the highway is gained, and another mile sees them at Flemington, close to the market. From the racecourse, and over the pontoon bridge of the Saltwater River, comes the western contingent, which hails from the marshy flats and volcanic trap “rises” of Port Fairy. These are nearly pure Shorthorns, all station-bred cattle, and looking as fresh and full as if they had never left the well-grassed, well-sheltered paddocks they were calved in. They have had truly “a good time” in this mortal bovine existence. Grass and water have they never lacked in their lives. They are utterly ignorant of the nature of saltbushes and sandhills, ranges and stringy-bark trees. It is little more than a week since they left home, during which time they have experienced none of the ordinary hardships of the road. Small wonder that they look as if they had come straight out of their stalls in an English county rather than from an Australian cattle run. But stay! What large drove have we here, numbering perhaps twice as many as either of the others, which the Northern or Sydney-road is delivering? They are from the far north, evidently. Men, horses, and cattle have a long-travelled air. Rather wilder in their looks, very tender-footed, you may notice among them many bullocks with the long horns and enormous frames which characterised the colonial cattle of an earlier stock—fine cattle, but needs good country to fatten them thoroughly. Yes, truly, and what superb condition must these cattle have been in when they left their run, a thousand miles away. Aye! stare and doubt if you please, these cattle, now barely inferior to the best shown to-day, have come every step of a thousand miles, rather more than less. They come from the Paroo or thereabouts, in close contiguity to the Warrego and the Bogan, across the Queensland border. I am not quite certain whether

“Beyond the rainless Barwon,
Beyond the red Barcoo;”

but as the Mulligan said "down there"—a pleasant district, which may be described as being "about a thousand miles from everywhere." How many a long night and weary day must the fellows in charge have passed since they left their desert home? What a paradise!—what an abode of the blessed does this Newmarket, with the briny air from the bay and the cool green tints of the rye-grass and clover paddocks, appear to their wayworn souls. Only let them get the drafting over, and happiness unalloyed, inexhaustible, sets in that very moment. Heigho! we are bordering on the sentimental side of the spur and stockwhip, reminding us of the tune:

"When the hardest day was never then too hard."

Now, how many cattle have we altogether? Let us count—200 Gippslanders, 150 from Port Fairy, 500 from the Paroo, 180 very nice cattle (light weights) from the Upper Murray, just brought in by young Fitz Beanstalk—his party consists of two native lads and a black fellow; some small lots of paddock cattle make up the total, which reaches 1,200 head. One wonders how all these cattle are accurately divided and placed in separate pens before two o'clock in the afternoon on this very day, and whether mixing and confusion do not sometimes occur. Nothing of the kind takes place. The receiving-yards are large and distinct. Long lanes, with rows of pens neatly gated, provide all requisite facilities. The whole affair is constructed with reference to the newest lights of cattle science, and is massive, macadamized, well drained, and well managed. But are not some yards and pens more advantageously situated than others? Granted. But all this class of difficulties has been foreseen, and provided for. The stock agents to whom the cattle are consigned draw lots for places before their arrival. Town drovers in their pay are dispatched to meet each drove, to inform the person in charge of the exact yard and pens to which he is entitled, and to point out the best way in. Then, on arrival, all goes smoothly. There is no wrangling, confusion, or injury to stock possible. Each knows his appointed place, and the men go on with the work of drafting uninterruptedly, having all in readiness by the appointed hour. Twelve o'clock. Long ere that hour, horsemen, cabs, buggies, and traps generally are to be seen lining the well-macadamized road, rather under three miles in length, which leads from central Melbourne. The visitors are "human varions." Shepherds and salesmen, butchers and overseers, stockmen, and cattle-dealers, squatters, with occasionally a merchant (come to see how the stock look from that Burrabunda station in which our firm has an interest—yes, sir!) make up the crowd. There is much diversity of aspect and bearing among the butchers. Some are manifestly prosperous, some patently seedy. Here is a brother of the guild in the traditional blue raiment; there is a quietly-dressed person, who might be a banker or a town-abiding squatter for all that appears to the contrary; one drives a whitechapel cart with a broken-down trotter; another canters up on a cover-hack, being a pretty constant and straight-going member of the Hunt Club. However different in garb and manner, they are tolerably alike in the keen scrutiny which they bestow upon the various pens, for the market has been "bare" for a week or two past, and the "men of flesh and blood" are short of stock, and what salesmen call "hungry." The whole place is like a fair. Everyone who wants stock knows full well that at no other place can he be so well suited. Butchers and dealers from Ballarat, Sandhurst, and many another inland town, are there, knowing by experience that they can buy more profitably than at their own doors. 20,000 sheep and 3,000 or 4,000 lambs are in the sheep-yard, principally in pens containing fifty. Here you have your choice of Lincolns, Leicesters, Cotswolds, and Southdowns, with their crosses, from their evergreen pastures of the west. Skipton merinos, the famed flocks of Larra and Ercildoun are there represented. "Pure Camdens (like Hawk-eye, without a cross) from Mount Hope, besides large-framed wethers in thousands from Echuca last night, from Riverina, from beyond the Murrumbidgee, beyond the Lachlan. Everybody's sheep are here, from Thomas Jackson's twenty ewes to Mr. McIntyre's 3,000 wethers. Shepherds, long-haired and grizzly-bearded, from the inmost deserts, appear in this quarter, strange and wondering of aspect, leading collies of inestimable value. Town drovers, also, with their dogs, brisk, alert, confident, familiar with the scene. Wool is everywhere; while barking and bleating

seem to be the only recognised dialects of the department. Squatters and overseers are in force round the cattle-yards. The former are present to enjoy the sensation of seeing their "top pens" run up, before their eyes, to fancy prices. These are chiefly of the *jeunesse dorée* of the order, the seniors knowing by experience that their presence will not alter the law of demand and supply. The overseers have mostly "come down in charge," and have a feeling which prompts them to see the last of the animals which they have perhaps driven so many a weary mile with a patience and tenderness hardly to be exceeded if they had been their own transformed brothers and sisters. It is gratifying to their feelings to sit on the rails and see all this self-denial bear fruit in high prices, though very galling to mark a vagabond butcher's boy, wholly destitute of fine feeling, taking these cherished animals to the abattoirs at full trot, cracking his whip behind them as if they were mallee scrubbers. By previous arrangement, at 12 precisely Mr. Flaherty mounts the rails, to sell the Paroo cattle. With a winning smile, a persuasive glance, and an air of Arcadian truthfulness which impress even the hardened butchers, that accomplished agent commences: "Gentlemen, before I offer the first pen of the splendid draft of cattle you see before me, allow me a few words of explanation. I am fully aware that before such an array of judges mere words of praise go for nothing—for less than nothing. But I feel that I should be neglecting my duty did I fail to draw your attention to the very uncommon circumstances—highly advantageous to you as buyers—under which these cattle come before you. Do not they remind you, gentlemen, of the pleasant times of the good old days, when we were all younger men, better riders, and jollier fellows than we are now? (Here the speaker's accent was so benign and touching that a murmur of approbation and faint denial arose.) In those days, gentlemen, the cattle were larger and heavier than any that we find in these. I see that you agree with me. We have all regretted that the immense frame and extraordinary weights which we used to see and hear of were becoming things of the past. Cattle are not allowed time to grow in these days, or to fatten properly after they have grown. I am here to-day, gentlemen, to offer you a draft of bullocks equal to anything that I ever recollect. Look at them. Have we had anything here to compare with them of late? Talk of being fat—these cattle have been fat and ripe for two years. And (most impressively, even solemnly), gentlemen, its all in them now. They may appear to have fallen off a little on the road—perhaps a little loose fat may have rubbed off. But they have been carefully, I may say wonderfully travelled by my friend Mr. Brigalow here. They are as quiet as milkers; and for the number, taking ripeness, age, size, weight, and quality, I firmly believe that such a lot of cattle never entered the yard. What shall we say then for the first pen?" Whether Mr. Flaherty's peroration added much to the account sales we have no means of knowing. Probably the pens sold none the worse for it, as from his eloquence on the state of the market they averaged the highly satisfactory price of £9 odd. The Gipps Land cattle come next. They are smaller than their predecessors; but very prime, as level as peas, have fallen off but little, and that they are "good all round" is known by previous experience to every *habitué* of the yards. They pass off quickly and merrily at a price which just beats the Paroo division, but not by much. The Upper Murray cattle, which are neat and good, but light, bring about £7 all round. Last came the Port Fairy cattle. They are incontestably the best in on this particular day, and a buzz of approbation and excitement is heard as a salesman not much renowned for oratory clambers up and begins: "Now then, you butchers, do ye think you know the XYZ brand? Strikes me you've seen it before, and paid for it too, as very like you will to-day. They haven't come very far, and I don't know as they've fell away much. If they have, they must ha' been quick about it, for they only left their camp yesterday week. I'm going to keep the fancy pen till last, so give 'em a start and don't keep me waiting. The fourteen pens were not long unsold, after this laconic address, which was responded to with cheers and laughter. "Go it, Billy;" "Well done, old man;" "We'll run you for Melbourne West next time there's an election," were the remarks that caught the ear—the last criticism being "Sure he'd make an elegant spache only for the murdering cowld he has." Now comes the crack pen, and certainly they are regular "plums," as the stockmen say. Five roans, three reds,

and two white bullocks; they were "fit to bring the tears into your eyes," as an elderly drover declared. If they were not pure Shorthorns, the stain of inferior blood was very faint and very remote. Bar the very cream of prize cattle, they were a match for any British Shorthorns, and the best grass-fed cattle in the world. "Now, boys, drive on!" said the man of few words—"whose are they going to be?" "Ten pounds—that be hanged! eleven—twelve—thirteen ten—ten—ten—fourteen: Jones has 'em; fourteen—fourteen. Well done old Twist, they're your sort, ain't they?—Fourteen ten—ten—ten. Didn't think you'd be beat off like that Twist." "Fifteen," roars that apologetic tradesman, purple with jealousy and wrath. Jones declines the pecuniary duello, and the hammer falls. It ain't such a bad average, confesses Mr. Crab—eleven pound ten all round! The sales are over: 1,200 cattle have passed the hammer, and 20,000 sheep have been sold privately. In no case are there more than two sale days in the week, and then only when one day is insufficient to clear off the stock. Next day accounts are furnished and the cash paid over.

Everything has been conducted with wonderful despatch, and with a fairness and openness which leave nothing to be desired on the part of buyer or of seller. Every one is satisfied that according to the state of the market the exact price current has been given and received. Each purchaser has had an opportunity of inspecting, cheaply and conveniently, the whole of the stock furnished by a vast extent of pastoral country. He has had an opportunity of purchasing at first hand, the exact quality and quantity suitable to his wants. There is no system of middlemen. The humblest butcher, if solvent, can buy his pen of sheep or cattle as independently as the owner of twenty shops. Mr. Fitz-Beanstalk is as well satisfied with his £7, as the owner of the XYZ's, with his £11—for the same reason, he has got the fair market price. All is finished, and the necessary beer having been imbibed, cabs load up, fast trotters in buggies, emulous, take the road, which look like a section of the return from the Derby—and "a day at the Melbourne cattle yards" is over.—*The Melbourne Economist*.

THE CENTRAL CHAMBER OF AGRICULTURE.

A Council meeting was held on Tuesday, February 7, at the Salisbury Hotel, Sir M. Lopes, M.P., president for the year, in last chair.

The CHAIRMAN in opening the proceedings said: Gentlemen, as this is the first time that I have taken the chair as president of the Central Chamber of Agriculture, I cannot but feel how much I need your kind indulgence and consideration; and, although I yield to no man in the interest which I take in these Chambers, I am conscious that I can lay no claim to the same amount of ability or of practical knowledge that many of the gentlemen who have presided over their deliberations have possessed. I can only say that I am deeply impressed with the benefits which these institutions have conferred, and are capable of conferring upon agriculture (cheers). They are already a great power, a recognised authority, and they have, moreover, already exercised considerable influence in the councils of the nation (Hear, hear). I cannot but feel that we are much indebted to the gentlemen who were the first promoters and originators of these Chambers, the success of which has not only fulfilled, but has no doubt far exceeded their most sanguine expectations. There is no class of society which has suffered more than the agricultural class from the want of combination, of co-operation, and of organization; and I feel confident that if such institutions as this had existed some years ago many of the exceptional burdens which of late years have been placed upon agricultural industry would not have been successively imposed upon it, but would have been averted (Hear, hear). We have now means of making ourselves heard, and of ventilating our grievances in the Legislature which we never possessed before, and I repeat that if these means of expressing our opinions and feelings had existed some years ago we might have warded off many of the unjust imposts of which we have so loudly and justly complained. I hope I shall be excused for saying this in reference to the Central and also the provincial Chambers. We cannot disguise from ourselves that when those Chambers were established, there was a great deal of suspicion and apprehension, and I might almost say of antagonism in the case of landlords. The landlords looked upon these Chambers as a sort of trades' union—a combination of tenants' interests against their own. I do not hesitate to say that there was no ground for this assumption (Hear, hear). Further, I say that the tone which has characterised our proceedings here has been most temperate and moderate, that the language employed has been of a conciliatory character, and that even on questions which have been subjects of difference between landlords and tenants it has been more calculated to remove unfavourable impressions than to strengthen or justify them. I believe that the discussions have tended to cement rather than to disturb the amicable relations which I trust will always exist between landowners and occupiers (Hear, hear). Now, gentlemen, I would entreat all the members, both of the Central Chamber and of the provincial Chambers, to persevere in

this line of conduct; for depend upon it that hard words and bitter language can never aid a good cause, whereas soft words, conciliatory language, are among the surest and most effective weapons. I am, and have always been, an advocate for discussing what concerns landlords and tenants alike, and I am satisfied that the more they are discussed the more landlords and tenants will be inclined to meet each other and to compromise their differences; while on the other hand, if you attempt to stifle such discussions they will only assume a more formidable aspect (Hear, hear). We have, I think, great reason to congratulate ourselves on the progress which we have made, especially as this is only the sixth year of our existence. We have at present something like 90 Chambers affiliated with us. Deep as is the interest which I have long felt in the question of local taxation, I have no hesitation in saying that I should never have ventured to bring forward that question in Parliament if these Chambers had not existed and I could not have reckoned upon their kind assistance; for I am satisfied that in that case my doing so would have been useless (Hear, hear). Whilst, however, I congratulate you on our progress, I would remind you that in these days if we do not advance we retrograde; and you must not, therefore, be satisfied with what is already done (Hear, hear). Let me throw out one or two suggestions which would, I think, prove beneficial if you could act upon them. We have an excellent Secretary; I have a very high opinion of him; but, unfortunately, we cannot make use of him as we could desire. Depend upon it he has too many irons in the fire, and we want more of his time. But he naturally says, "If you want all my time you must compensate me for giving it to you." That is only fair and just. Depend upon it that we shall be starving the Chambers and doing irreparable injury to our cause unless we get more time from our Secretary. We have at this moment only 160 members of the Central Chamber. That is a paltry number (Hear, hear). The landlords ought, in my opinion, to join this Chamber; help to support it, and give us more of their countenance. I think they would act wisely in doing that: it is their interest to do it, and if you will give me your assistance I shall feel great pleasure in trying to double the number of members in the present year. I am sure that if you will give us your energetic assistance as members we shall have no reason to complain. We want more moral and material support of this movement. The income of our Chamber is under £500 a year—an amount which is so small that we ought not to rest satisfied with it. To sum up: First, we want more time from the Secretary; next, we want an office in London where anybody who comes up from the country may go and find some one to talk to and consult with. That is a very important matter. Another point of importance is, that with advantage to our cause we might circulate a vast deal more printed matter. In conclusion, let me say that it will be my desire and effort to aid and assist you in every way that I can. I must ask your kind indulgence

and consideration during my year of office, and if you will give me these I hope I shall be enabled to do something towards extending the usefulness of the Chamber.

The SECRETARY then read the minutes of the December meeting, which were confirmed.

Mr. T. WILSON read the Report of the auditors, which showed an available balance of £193.

The SECRETARY read a letter from Mr. E. Heneage accepting the office of Vice-Chairman for the current year, and that of Chairman for 1872. He also read letters from the traffic managers of several railways, relating to a resolution of the Council passed in November last, and transmitted to those gentlemen, complaining of the exorbitant charges made by railway companies for the conveyance of dead meat, and expressing a hope that there would be a reasonable reduction of the tariff, so as to facilitate the supplying of such meat. The manager of the Great Western and the Midland Companies promised that the matter should receive full consideration. The managers of the Great Northern stated that the subject would be inquired into, and he would communicate again with the Secretary; while the manager of the Great Eastern said that the Company reduced the rates for dead meat from 20 to 25 per cent. in April last, and were not prepared to reduce them further at present.

Several new members were elected, including the Duke of Rutland, the Earl of Morley, Lord Leigh, the Earl of Powis, Lord Sondes, Lord Aveland, Lord Clinton, and Lord George Manners, M.P. A letter was read from a Mr. Taylor, said to be very much abroad, where, as he had seen by the *Mark Lane Express* that subscriptions were still much needed by the Local Taxation Committee, he forwarded a contribution. A communication from the East Kent Chamber, in reference to the French Peasant Farmers' Seed Fund, was referred to the committee of that fund, which sits at the Salisbury Hotel.

On the motion of Mr. A. PELL, M.P., seconded by Mr. D. LONG, a sub-committee of the Council was appointed for general business.

The CHAIRMAN then read the following Report of the Committee on Local Taxation: The Local Taxation Committee, in presenting to the Council of the Central Chamber of Agriculture a report of their proceedings since the last meeting in December, feel that they have just reason to congratulate the Chamber on the progress which has been, and on the continued success which has been the result of their efforts. It will be remembered that at that meeting the Council sanctioned the proposal of the chairman of your committee that a form of petition to the House of Commons should be sent to the clerks of the peace of every court of Quarter Sessions in England and Wales, with a request that they would lay it before their chairmen, with a view to its discussion and adoption by the various courts. This has accordingly been done and your committee are happy to be able to state that the result has been highly satisfactory. According to the accounts which have been received, the subject was brought before no less than thirty-three courts of Quarter Sessions, and twenty-four cases the petition, or a similar one, was agreed to by large majorities, and, in many instances, unanimously. In four counties the magistrates preferred to memorialize the Home Secretary; in two the motion could not be considered because due notice had not been given; whilst in two courts of Quarter Sessions only, viz., those of Oxford and Bucks, the motion was unsuccessful. It may be observed that in these two counties there are no organised county chambers of agriculture. Having met with such success with the magistrates assembled at Quarter Sessions, your committee deemed it advisable to pursue the same course with boards of guardians, and during the past month suitable forms of petition to the House of Commons have been forwarded to the chairman and vice-chairman of every union throughout the kingdom. Here again the result has justified the sanguine expectations of your committee, and letters are received every day, showing that the matter is being taken up most warmly by these bodies, both in towns and country, and that public attention is becoming daily more alive to the injustice of those exceptional burdens which your committee protest against. The committee augur very favourably from the fact that this question has been taken up so warmly by courts of Quarter Sessions and boards of guardians, as these bodies have no political or party bias, and have been simply actuated by their views of what is right and equitable. Your committee

are as anxious as ever to keep this question out of the arena of party politics, and strongly deprecate its being made a subject of party strife. The committee would suggest that boards of guardians should request their local Members of Parliament to present all such petitions. These gentlemen would thus perceive the deep interest taken in this question by their respective constituencies, and may be induced to give it their individual support. The committee have thought it advantageous to establish a monthly periodical entitled "The Local Taxation Review," which will contain reports of all meetings held in the country during the month, and will from time to time comment upon the progress being made. By circulating this pamphlet gratuitously, your committee hope to extend the interest taken in the subject, and thus widely diffuse useful information. Your committee would beg to call attention to a paper read by Mr. Dudley Baxter at a meeting of the Statistical Society, and would recommend its perusal by all who take an interest in the subject of Local Taxation. In the opinion of this eminent statistician, real property is over-taxed when compared with personal property, if imperial and local taxation are considered together. Mr. Dudley Baxter computes that *land* pays 7 per cent., leasehold houses pay 6 per cent., freehold 3 per cent. more than personal property; and if real property should be charged with probate and legacy duty, this per-centage would, of course, be very considerably increased. Attention should also be bestowed upon the report of a committee appointed at the instance of Mr. Crauford, M.P. for Ayr, upon the Scottish Poor-law, which will be found to contain valuable evidence upon the rating question and its important bearing upon the pauperism of the country. The committee are of opinion that the question of Local Taxation should be brought before Parliament as early as possible in the ensuing session. In the last two sessions much time has been taken up by Irish affairs, and your committee hope that home politics may now claim a fair share of legislative attention, and that Mr. Gladstone's promise will at last be redeemed; but if the Government in the speech from the Throne do not throw out intentions of dealing with the subject in a large and comprehensive measure, your committee would suggest that a deputation from the Central Chamber or others interested should wait upon the Government and urge the necessity of a speedy consideration with a view to a full and impartial inquiry into the whole matter. The committee would add that their secretary has lately attended large and influential public meetings of the Warwickshire Chamber at Rugby, the West Kent Chamber at Tenterden, and of the new Chamber of West Gloucestershire and Bristol. The Secretary was invited to attend these meetings, and the facts and figures which he brought forward excited much interest and attention. Your committee have much pleasure in stating that a very crowded meeting was held on the 2nd instant at Berner's Hall, Islington. It is estimated that between 1,500 and 2,000 persons attended. Alderman Lusk, M.P., presided, and Captain Warner Dennis and Mr. Gardner addressed the meeting. Resolutions were passed to the effect that a number of committees should be formed throughout the borough, with a view of concerting united action, so that there might be secured a readjustment of the rates, which are levied not merely for local but for general objects. The fact of this meeting being so numerously attended clearly shows that householders in towns are beginning to take a deep interest in the question, and your committee venture to hope that this meeting will be a prelude to others of a similar character, not only in the metropolis, but in other large provincial towns. The committee would observe that some counties have taken up this important question with much greater vigour and energy than others; but as a general rule they feel that they have not received such support and sympathy from owners of real property as they could have wished. Your committee are very desirous of being able to extend their operations, and in order that this may be done effectively it will be necessary for them to receive material support, not only from occupiers, but also from owners of land and houses, who are more especially interested in a removal of the grievance. The committee beg to acknowledge the fresh subscriptions and donations which have been received or promised since the last meeting of the Central Chamber.

On the motion of Mr. Horley, seconded by Mr. Bence, the Report was adopted.

Professor BUND moved: "That it be an instruction to the

Local Taxation Committee to use such means as they may think fit to diffuse useful information throughout the large towns of the country on the subject of Local Taxation." He thought that was a question which was not yet duly appreciated in large towns. Leasehold houses paid more than their fair proportion of local taxation, and if that were more generally known among the owners, they would probably support that movement. A meeting on that subject had already been held at Islington, which was attended by 2,000 persons, and resolutions were passed, and a committee formed to promote the object. Much good would be done if town councils, as well as grand juries, were led to petition Parliament for a revision of Local Taxation. The question did not concern merely landlords and tenants; it was a national question and required a national remedy. Perhaps the incidence of local taxation pressed quite as heavily in towns as in the country, and many of them might render great moral and material assistance.

Mr. CALDECOTT, in seconding the motion, said he quite agreed with the mover, that it was desirable to seek the assistance of town councils on that question. At present most townspeople seemed to be under an impression that that was a question which concerned only the owners and occupiers of land, but if the subject were fairly ventilated in towns that kind of prejudice would soon be removed.

Mr. WILKS (Cambridgeshire) said the council must distinguish in that case between local taxation for local purposes, and local taxation for imperial purposes; without that there could be no good result.

Mr. GENGE ANDREWS (Somersetshire) concurred in this view. He doubted whether any general appeal to the town councils in large towns would be successful, as those bodies consisted to a large extent of manufacturers and tradesmen possessing a large amount of capital which was exempt from the poor-rate assessment. It was to the lower class of ratepayers that they must look chiefly for support. In the case of the lowest class of ratepayers the rates were paid by owners of houses, and hence they would not feel much disposed to support the agitation. But above them there was another class of ratepayers who were as much injured by the present exemptions as farmers were, and it was to that class that they must address themselves. He did not think much good could be done through the Borough Sessions; but the grand juries assembled at Quarter Sessions always had to make a presentment, and were composed of a class of persons most of whom would be anxious to support that movement. He believed that those bodies might be got to render most effectual aid on that question.

Mr. CORRANCE, M.P., wished to call attention to a paragraph in the Report which seemed to him to require special attention; he meant the paragraph relating to the course to be pursued in the pending Session of Parliament. It was there stated, in effect, that if the Government did not give a satisfactory assurance of legislation on that subject the Council should support Sir Massey Lopes in introducing the question in a manner which would bring it to a decisive issue. He trusted that, in accordance with that view, the Chairman would, under the circumstances supposed, challenge a conclusive division. It was, however, matter for grave consideration in which way the question should, in that case, be presented to the House of Commons, as the result of the first division would either discourage or strengthen the hopes of all their supporters. In the last Session there was a very important division bearing upon the subject of the Elementary Education Bill; but, owing to untoward circumstances, the result was not as good as they had expected: in fact, numbers who had promised support did not give it, in consequence of the terms in which the question was submitted. He hoped that anything of that kind would be avoided in future, and that the advantage gained by local agitation would not be lost in Parliament.

Capt. CRAIGIE said that the Lord Provost and the Town Council of the city of Perth had actually petitioned Parliament in favour of levying a part of the rates on every description of property. In Scotland as well as in England the injustice of the incidence of the poor-rate and other charges imposed for national purposes was felt very severely, and he believed that their brethren in the north were ready to work shoulder to shoulder with them on that question. Moreover, strong as the feeling in Scotland was in the country, it was, he believed, still stronger in the towns,

Prof. BUND, in replying, observed that the town councils were elected chiefly by the very class of persons to whom Prof. Bund had referred as most interested in that question, and no doubt the diffusion of information would secure their support.

The CHAIRMAN said he need scarcely assure the meeting that the Executive of the Local Taxation Committee would give their best consideration to the question how the object might be best carried out. As regarded towns the great difficulty was that the occupiers of the smaller tenements did not pay the rates themselves. Unfortunately such persons did not see the tax-gatherer (laughter), the rates of houses of the smallest class being paid in the form of rent (Hear, hear). With regard to what Prof. Bund had said about the two kinds of local taxation, he would remark that the local taxation of the kingdom amounted to about £20,000,000 per annum, of which about £12,000,000 was paid for national, and the remaining £8,000,000 for strictly local purposes. Their efforts as a council must be limited to the former, and the fact that such taxation was levied for national purposes formed the strong feature in their case.

The resolution was then adopted.

The SECRETARY then read the following report of the Committee on Fire Insurance:

Report of the Committee appointed by the Central Council of the Chambers of Agriculture, on Tuesday, November 8th, 1870, to confer with the various Fire Insurance Offices as to the most equitable mode of insuring farming stock, and to report to the Council thereupon.

The members of the committee are as follows:—Colonel Tomline, M.P., of Riby Grove, Great Grimsby, Lincolnshire; Mr. C. S. Read, M.P., of Honingham Thorpe, Norwich; Mr. Albert Pell, M.P., of Hazlebeach Hill, Northampton; Captain Catling, of Needham Hall, Wisbeach, Cambridgeshire; Mr. Jabez Turner, of Haddon Grange, Peterborough; Mr. G. F. Muntz, of Umberslade, Birmingham; Mr. R. Varden, of Seaford Grange, Pershore, Worcestershire; Mr. W. H. Morrison, of Haigh Hall, Barnaley; Mr. Cornelius Walford, of Little Park, Enfield. Your committee met at the Salisbury Hotel on Thursday, December 8th. Present:—Mr. C. S. Read, M.P., in the chair; Mr. A. Pell, M.P.; Captain Catling, Mr. Cornelius Walford, Mr. G. F. Muntz, Mr. Jabez Turner, Mr. R. Varden, Mr. W. H. Morrison. The secretary of the Central Chamber having communicated with sixty-two fire insurance offices in Great Britain, your committee had before them replies inclosing terms of insurance from thirty-two offices; from which it appeared that the terms agreed upon in common by the companies associated under the "Tariff" are adopted in general by the following twenty-five (among other) offices: namely, the Sun, Phoenix, County, Royal Exchange, Imperial, Atlas, Hand-in-Hand, Alliance, Norwich Union, Scottish Provincial, Westminster, Liverpool London and Globe, Royal Farmers' and General, London, Law, Law Union, Yorkshire, Caledonian, Manchester, Britannia, Kent, London and Southwark, Midland Counties, Norwich Equitable, and Scottish National. The following six offices, namely, the Essex and Suffolk Equitable, the Town and County, the London and Midland, the Staffordshire, the Mutual, and the Border Counties, communicated terms varying from those of the associated offices, or expressed their readiness to receive any proposal from the Central Chamber of Agriculture as to the most equitable mode of insuring farming stock. In particular the Essex and Suffolk Equitable Insurance Society accept insurances without the average clause upon farm stock in two separate divisions—(1) agricultural produce and implements, and (2) live stock; the Town and County Insurance Company, Limited, insure agricultural produce, growing crops, live stock, and implements and utensils of husbandry without the average clause, relying upon personal supervision over proposals for insurance made to the company; and the Mutual Fire Insurance Corporation, Guaranteed, inform your committee that their office was founded for the express purpose of doing away, as far as possible, with the anomalies of the "tariff system" as now practised by the combined offices; that, in their opinion, a satisfactory settlement may be arrived at by charging the insured an adequate rate without the average clause, and making periodical returns or bonuses from profit or surplus premium, and that they have no doubt they could make

arrangements in combination with two other first-class old established offices to carry out this system. Your committee are not in a position to say how many of the remaining thirty-five insurance offices which have not forwarded statements of their terms to the secretary of the Central Chamber may be prepared to insure farming stock without the average clause. Your committee are gratified to find that since the discussion of the subject by the Council on November 8th an important circular has been issued, which may be taken as a concession on the part of one of the chief associated offices, viz., the Sun; and your committee direct attention to the following extract from the circular issued by the Sun Fire Office on November 23rd, in reference to the "special condition" applicable to the insurance of agricultural produce: "The present measure is intended to be applied only to agricultural produce; but, of course, if other property is insured in one sum therewith, the condition must be applied to all the property insured in that sum. On this point I would call your special attention to the following remarks: In modern policies the estimate of three-fourths value would embrace dead farming stock, implements, and utensils. In some old policies it would comprise also live stock, which was formerly included in the same item with dead stock, &c. If you should desire to limit as much as possible the application of the special condition you will do well to avoid including other property in that same item with the agricultural produce, to which the condition must apply. Such policies as those above described, which include agricultural produce and other property in one item, would be very unsuitable to your purpose. To meet such views the managers are prepared, in case of need, in order more literally to carry out the provisions of the special condition, to accept insurances by a division of the first item into two, viz.: (1) Agricultural produce, (2) farming stock not being agricultural produce (live stock excepted), implements, and utensils of husbandry; live stock, not exceeding £40 on any one animal, would then become the third item of the policy. As a question might, under such circumstances, arise as to what articles are to be included under each of said items, the managers beg to state that they are prepared to recognize the following classification: Under No. 1, crops of all kinds—as hay, corn, straw, peas, beans, fruits, hops, seeds, hemp, flax, roots, and such like, whether growing or severed, also wool, milk, and cheese, and all such results of the agricultural operations on the farm; under No. 2, manufactured cattle feed of all kinds, dung, artificial manure of all kinds, implements and utensils of all kinds, except steam machines of all kinds with their engines and boilers; under No. 3, live stock would include agricultural horses and cattle of all kinds, sheep, poultry, pigs, dogs used for farm purposes, &c., subject to the limit of £40 for each animal. Excepted as before would be: Hops and grain whilst undergoing the process of drying in oasts or kilns; barley under malting; farm produce stacked nearer than 100 yards to any railway, or to any tank or vessel for dipping hop poles in creosote or any other inflammable material; and property in any building in which flax or hemp is dressed, or in any other building adjoining thereto, and not separated therefrom by a brick or stone wall. Each and all of these must be separately named and valued to be insured. If you should desire to exclude from the insurance on agricultural produce one or more of the articles enumerated under No. 1, in order to avoid bringing them into the average, you will be at liberty so to do, and the policy will be worded accordingly. You will not, however, in the event of any such excluded property being burnt or damaged at a fire, be allowed to include the same in your claim either under the first item from which such property was specially excepted, or under the second item by which dead farming stock was covered. Roots not stored in buildings; growing crops; agricultural produce deposited in any single specified building, or any specified stack, may be insured, each in a separate item, without being subject to the average condition. From an insurance on live stock, cattle grazing, or sheep can, if desired, be specially excluded." Your committee invited to a conference representatives of the associated offices, and were favoured with an interview by Mr. H. R. Tomkinson, of the Sun Fire Office (chairman of the "Fire Offices Committee"); Captain E. Bignold, of the Norwich Union Office; Mr. Charles P. Ball, of the Royal Exchange Assurance Office; Mr. John Reddish, of the Royal Farmers' and General In-

surance Office; Mr. George William Lovell, of the Phoenix Fire Office; and your committee present the following as the result of the interview: (1) The associated offices cannot depart from the regulation for taking three-fourths of the value at the time of a fire as the basis of the amount upon which premium should have been paid, and do not agree to an amount based upon an average of price and of produce extending over a series of years. (2) The offices decline to vary the rates of premium upon produce stacked separately and produce stacked together. (3) The offices represented could not feel at liberty to go into the question of separating and defining cattle feeding stuffs, which is one of interpretation, and would be dealt with by each office as occasion arose. (4) The offices will take into consideration separate policies for hops placed in a specified building, and for a less period than one year; but if placed in more than one building, then the average clause must apply. (5) The offices allow wool to be insured under a separate policy if placed in a specified building. (6) The offices insure steam-engines and machinery worked by steam, at special rates, according to risk and position. Your committee also had an interview with Mr. Robert Anderson, of the Essex and Suffolk Equitable Insurance Society; Mr. John Thorley, and Mr. J. Knight Leake, of the Town and County Insurance Company, Limited; Mr. J. B. Bannerman and Mr. John B. Adams, of the London and Midland Fire Office; and your committee present the following results of the interview: (1) These offices will insure farming stock without the average clause, and are disposed to accept insurances at different rates according to the special risk of the farm; but they indicate that in all cases they would expect a premium upon not less than three-fourths of the value of the agricultural produce. (2) The offices generally insist upon a division of the property insured under different heads. (3) The offices agree with the associated offices as to special rates and conditions for hops, wool, and steam machinery.

CONCLUSIONS.—Your committee informed the representatives of the offices that, in their opinion, there is no general objection to the average clause being applied to three-fourths of the value of agricultural produce, provided average prices and average crops over a series of years were taken as the basis of the amount on which premium is to be paid. Your committee regret that the representatives of the associated offices unanimously declined to entertain this proposition; which determination will render necessary for the farmer's full protection that he shall take out a new policy year by year, and may also necessitate an additional premium in case of a sudden rise in the value of grain. Your committee are happy to find that other offices are willing to effect insurances of farming stock on the terms suggested by your committee; and your committee are of opinion that, in justice to these offices, insurers of agricultural produce should pay premiums upon amounts of not less than three-fourths of the average value of that produce. Your committee recommend farmers in all cases to insure hay, corn, straw, and similar agricultural produce, in a separate amount from other property. It appears to your committee that, on the principle of ascertaining the value of insured property at the time of a fire, there is serious liability of misunderstandings arising between insurers and insured, likely to lead to litigation and the danger of the sum recoverable being below the actual amount of loss. And your committee therefore desire that it should be the practice of all (as it already is of some) offices to inquire into and decide upon the sufficiency of the amount insured at the time of insuring.

(Signed)

CLARE SEWELL READ.
CORNELIUS WALFORD.
ALBERT PELL.
R. C. CATLING.
G. F. MUNTZ.
JAMES TURNER.
W. H. MORRISON.
R. VARDEN.

Feb. 7th, 1871.

On the motion of Mr. G. SMYTHIES, seconded by Mr. C. S. READ, M.P., the report was received and adopted, and ordered to be printed and circulated.

The next question on the agenda paper being "What further steps shall be taken by the Council towards securing uniformity of weights and measures?"—

The SECRETARY read the following recommendations of the Joint Committee:

That, in the opinion of this committee, it is desirable that the Government should be requested to act upon the recommendations of the Standards Commissioners in their second and third reports, by legislating, with the least practicable delay, in reference to the introduction of the metric weights and measures in this country, and facilitating their use by making proper arrangements for the legal verification and stamping of such weights and measures.

That, although the Central Chamber of Agriculture has recommended that grain should be sold by the 'cental' of 100lb. (one hundred pounds), which is in use at Liverpool, yet, as your committee find the general average weight of a sack of the different kinds of grain to be about 224lb. (two hundred and twenty-four pounds), or the tenth part of a ton, they are of opinion that it would be desirable to substitute for the 'cental,' a weight of 100 (one hundred) kilogrammes (or in other words, 'a quintal'), which only differs by a fraction from 220lb. (two hundred and twenty pounds).

That the chambers of agriculture and the chambers of commerce be recommended to petition the Legislature to pass, with the least practicable delay, such enactments as will establish the kilogramme with its decimal multiples and divisions as the standard unit of weight in lieu of the present pound avoirdupois and other imperial and customary weights.

That, in the opinion of your committee, the use of such standard weights should be made compulsory within a definite time; and, thenceforth, contracts made by any other weights should be invalid.

That this report be printed, and copies transmitted to all the chambers of agriculture and chambers of commerce, to agricultural societies, farmers' clubs, and municipal councils, with the request that they will circulate the same and consider the recommendations of this committee at their earliest convenience."

Mr. RIGBY then moved the following: "That this Council, in receiving the Report of the Joint-Committee on Weights and Measures, adheres to its former resolutions to the effect, that all agricultural produce, except liquids, should be sold by weight only, and that the 'cental' of 100lb. is the standard most easy of adoption." He said the resolution divided itself into two parts. The first was that "all agricultural produce, except liquids, should be sold by weight only." He thought they would all agree that weight was the best criterion of value. They all knew that samples of grain varied very much in weight, although the measure was the same, and that was always taken into account by the dealer in making his purchases. Even the sharp setting down of the bushels made a great difference in the measuring of corn. On the whole, farmers would get a fairer value for their produce with weight than with measure. As regarded the second question involved in the resolution, the adoption of a uniform standard, he thought that a cental of 100 lb. would be the more easily understood and more simple in adoption than what was recommended by the committee, and he was confirmed in that view by the remark of Mr. Read at the last meeting, that when he began to study the metrical system he thought he understood it perfectly, but that now he did not understand it at all (laughter). He thought it would be best to adopt the cental of 100 lb. as a leading principle.

Mr. CALDECOTT inquired what kind of lb. Mr. Rigby proposed to have as the basis of the cental.

Mr. RIGBY: 16 ounces.

Mr. T. WILLSON seconded the motion.

Mr. WILES hoped the Chamber would not come to a hasty conclusion as regards the standard to be adopted (Hear, hear). He should like to hear what answers had been received from the different provincial Chambers scattered over the country. He knew that in Cambridgeshire a resolution was passed against the adoption of the metrical system. As regarded the Report of the Committee, he contended that it was not consistent with itself—one part recommending that the metric system should be adopted, and another recommending the adoption of the cental of 100 lb. [Expressions of dissent]. The mover of the adoption of the Report himself dissented from it in some essential principles. In talking over the matter with some of his acquaintance he found a strong feeling in favour of adopting a uniform system, but he doubted whether that object was attainable (Hear, hear). He

was old enough to remember the time when the imperial bushel was established; but its use was now discontinued, except in the case of corn. The general custom in Cambridgeshire at present was to sell 63 lb. of wheat per bushel; but he had no wish to see that practice enforced in other parts of the kingdom, where different customs prevailed. In trying to force people to adopt a uniform system they would meet with an amount of resistance which it was not worth while to encounter. In the case of the imperial bushel, with its multiples and divisions, there were difficulties connected with the customs of trade which were never surmounted, and the only result was to add one other mode to the multifarious ways of selling. In his opinion it was not desirable for the Council to adopt any such resolution as that proposed without much further deliberation. As to the metric system, what the hon. member for Norfolk (Mr. C. S. Read) said with regard to it at the last meeting might well cause people to pause before advocating its adoption. The fact that a man like that had declared that the more he looked at the thing the less he understood it (laughter), should make them hesitate. He hoped, therefore, that the Chamber would not pass any resolution affirming the advisability of adopting the metric system, or even adopting the 100 lb. cental as a hard and fast line for the sale of butter, cheese, or any other kind of produce.

Mr. J. B. SMITH, M.P., who, with Professor Leoni Levi, was present as a deputation from the International Weights and Measures Association, said that the question under discussion appeared to be divisible into two parts: first, whether grain should be sold by weight or measure; and secondly, if by weight, what that weight should be. In this question he could not help thinking that the agricultural was equally interested with the commercial community. For was it not desirable that everybody connected with agriculture should know the exact price of his produce in every market? And would it not be a greater advantage still, if he knew its price in every part of the world? By the adoption of one uniform system, then they would accomplish that object. If they read a price current they would see the price of corn at Dantzic, Odessa, and other places, and at once know what it meant. But now they had such a variety of weights and measures that without making metrical calculations they could not tell what were the prices in different countries. This question had engaged the attention of Parliament, and he himself was a member of the Select Committee of the House of Commons in 1862, which unanimously reported in favour of adopting the metric system of weights and measures. Before that Committee it was stated that corn was sold by no less than 50 different measures in this country; and it was marvellous to him that the agricultural interest should have submitted to it so long. This great variety of weights and measures was one of the complaints of the Barons in the reign of King John. It led to a system of extensive frauds in times when people were less able to make their calculations than they were now. The Barons demanded a change, and accordingly by Magna Charta declared that there should be one uniform system of weights and measures; yet here we were at the end of six or seven centuries in the same position, without any change. The metric system obtained in France, Spain, Portugal, Holland, Belgium, Italy, and Switzerland. In Germany, it was at present permissive; but on the 1st of January next it would become compulsory throughout the whole of the German States. [A MEMBER: "One uniform system of weights and measures?"] Yes; throughout the country. In the United States of America, too, the law was already permissive. So it was in this country; but what was wanted was that it should be made compulsory. Again, in India, last April the Government adopted the metric system of weights and measures; and it now obtained throughout India, with a population nearly equal to that of all Europe. Last year a Royal Commission was appointed in this country to inquire into our system of weights and measures, and in their report they recommended the metric system, but for the present only permissively. Now the Commissioners appeared to him to have mistaken the object of their appointment altogether, because they were really appointed not to recommend the adoption of any particular system of weights and measures, but to report upon their revision. The Select Committee of 1862, on the other hand, unanimously reported in favour of the metric system; and he thought that that recommendation should have influence in settling the matter, rather than the report of the

Royal Commission appointed to inquire into the correction of weights and measures. He had been informed upon the best authority that the Government were about to bring in a Bill this session for the rectification of weights and measures and making it permissive; but what was wanted was that after a certain period, say three or five years, the metric system should be compulsory; and he had the best reasons for believing that the Government were disposed to take that course, provided there were any action on the part of the public to satisfy them that it would be acceptable. The commercial interest were taking up the question, and a large number of petitions would be presented respecting it; and what he asked the Chamber of Agriculture to do was that, having reported in favour of the metric system, it should also petition Parliament that the Bill might contain a clause making it compulsory after the lapse of a certain time. That had been the course pursued in other countries where the system was in operation. In Germany, it was three years, and that term would expire on the 1st of January next, when it would become compulsory. As to the practice prevailing in Russia, they had all sorts of weights and measures there, and the greatest inconvenience was felt in consequence. Seven years ago a gentleman was sent by the Russian Government to the International Statistical Society in London, authorised to say on behalf of the Government that they were desirous above all things to adopt the metric system as soon as they were satisfied that it would become universal; and if Great Britain would undertake to adopt it they would then have an assurance that it would become universal (Hear, hear). Therefore the gentleman was authorised on behalf of Russia to say that if England would adopt it Russia would do so. He hoped, then, that the Chamber of Agriculture would take the matter into consideration and unite with the mercantile classes in petitioning Parliament for the compulsory adoption of the metric system of weights and measures after a certain interval had expired.

Professor LEONI LEVI, who represented the same Association as the preceding speaker, observed that the adoption of one particular weight for one particular branch of trade or industry would be attended with inconvenience to the general interests of the country. The adoption of the cental for grain only would involve a total change in the table of weights. They would have done with the quarter of 28lbs. Everything in fact, would be changed, and the change would be as troublesome as a change in the entire system of the country (Hear, hear). It had not been found difficult to understand the metric system in any country where it had been adopted, and the present time, when a national system of education was going to be established, was very favourable for its adoption in this country, as all children might be taught the metric system. The national system of education would demand the greatest possible economy of time, and as in the teaching of the metric system one-third of the time hitherto devoted to arithmetic would be saved, children would be available for agricultural and other industrial operations so much earlier. The metric system was not confined to one country, but prevailed among 200 millions of the human race, and if this country adopted it heartily it would no doubt soon become universal (Hear, hear). The object was already, as it were, within their grasp, and one single step taken by such an association as that might greatly aid in its realisation.

Mr. J. B. SMITH, M.P., said he forgot to observe that the adoption of the metric system would lead to the adoption of a universal system of monies.

Captain CRAIGIE said he wished to move the following amendment to the resolution: "That this Council, appreciating the advantages of the recommendations contained in the report of the joint committee, is yet of opinion that it is desirable in the first place to afford facilities for an increased acquaintance with the metric system by introducing instruction in its principles in public elementary schools."

The CHAIRMAN interrupted Captain Craigie by expressing some doubt whether he could propose those words as an amendment.

Mr. D. LONG (Gloucestershire) said he thought that before the metric system was adopted there must be a substitution of fixed charges for fluctuating ones. The Chamber which he represented had passed the following resolution: "That the various weights and measures in the different markets of the kingdom being found exceedingly inconvenient, this Chamber is of opinion that a uniform compulsory system is desirable, but

that it should be preceded by the substitution of fixed title and rent charges for the present fluctuating ones."

Mr. WHITAKER thought it would be well for the Council simply to declare that agricultural produce should be sold by weight only, and to give the district Chambers a further opportunity of expressing their opinion on the metric system.

The CHAIRMAN having observed that on reflection he thought the amendment might be proposed,

Captain CRAIGIE resumed: He said that when the Chamber first entertained that question he was prejudiced against the metric system, but having since looked into the matter very carefully he wished to see it become a universal system. As regarded the opposition, he thought a great many gentlemen did not quite understand what it was they were opposing or were asked to approve. The metric system had been called a French system, and he had heard it opposed in local Chambers on that ground. It was, in fact, the system of 200 millions of people, and if France contained that number he should hardly have expected to find her in her present position. It was not a French system, but one which had been adopted by a large number of nations, and he believed it was worthy of universal acceptance. Again, it had been objected that the nomenclature of the system was uncouth and difficult for our countrymen to understand. That was a difficulty which would soon be removed if the teaching of the metric system were introduced into the education of children generally under the new system. If they did not understand it themselves that was no reason children should not be taught to understand it, and he had read evidence of masters of schools to the effect that they could teach a boy the metric system of arithmetic, so as to furnish him with ammunition completely for the rest of his life, in two years less time than arithmetic could be learnt under the present system (Hear, hear). A gentleman had remarked on the great diversity to be found at present throughout the country. That diversity seemed to him (Captain Craigie) an argument in favour of his amendment. A stone now consisted of 8lbs., 14lbs., 16lbs., 17lbs., 22lbs., 24lbs., and 32lbs. Surely if there was to be any change the easiest and best course would be to establish a uniform stone of 10lbs. They might familiarise their minds with the metric system by using English words to signify the same magnitude and weight, a course which had already been adopted to a certain extent in North Germany. They might call a gram a grain, 15.434 gra. troy; a decagram a dw., 154.34 gra. troy; a hectogram an ounce, 3.528 oz. avoirdupois; a kilogram a pound, 2.205lbs. avoirdupois; a myriagram a stone, 22.05lbs.; a quintal a cwt., 220.5lbs. avoirdupois; and a millier a ton, being 2,205lbs., instead of the old ton of 2,240lbs.—difference of only 35lbs. Of course the difference of values would have to be mastered; but if there was to be a change let them not make two bites at a cherry. It might be urged that it was not the function of Chambers to take up the question at all; but he dissented from that opinion. It was their function to watch over all questions that interested the agricultural community. If the Chambers were limited to one or two objects their life might be very brief, and he hoped they would take note of everything that affected agriculture.

Mr. G. F. MUNTZ, in seconding the resolution, said he believed that the opposition to the metric system arose, in a great degree, from its not being properly understood. To those who had never studied it it appeared exceedingly complicated; but, when once understood, nothing could be more simple. He regretted that the Chambers of Agriculture and the agricultural community generally had paid so little attention to it. Many of the members of Chambers, he believed, did not know what the metric system was; and no wonder, therefore, they objected to its establishment in this country. He deprecated any attempt to deal with that question by half-measures. When there was so much foreign competition, it was of great importance to the agricultural interest that every farmer in the kingdom, when he took up the quotations of foreign markets, should understand what they meant, so that he might regulate his own operations accordingly (Hear, hear). If the cental were adopted throughout the kingdom the same difficulties would attend that change as the one which he advocated, and what he desired was a radical change which would embrace the whole system. The Report was a most able and convincing document, and he felt certain that any

differences of opinion which existed in the Council on that subject arose solely from want of knowledge (Hear, hear).

Mr. WHITAKER thought it advisable that, before adopting any resolution on the metric system, the Central Chamber should obtain the opinion of the district Chambers. He saw no objection to their declaring, then, that agricultural produce should be sold by weight only, as they were all agreed on that point. It would be a dangerous thing to make farmers feel that the Central Chamber was promoting what some of them regarded as visionary objects.

Mr. H. BIDDLE (Suffolk) agreed with Mr. Whitaker that the district Chambers should have more time for considering the subject. Capt. Craigie said that children might be easily taught the metric system; but he did not forget that there were a great number of small farmers and tradesmen who would also require to be instructed, in order that they might be able to compare the new standard with the old one.

Mr. FINLAY DUN (Banbury Chamber) said the great object to be aimed at was the securing uniformity of weights and measures. It should not, however, be forgotten that the transactions between this country and foreign countries doubled during the ten years between 1856 and 1866. At the present time about five million quarters of corn per annum were sold in this country under various systems, while about the same quantity of corn from abroad was sold—some under the metric system, and some under other systems connected with the old standard. What they wanted, as agriculturists and as citizens of the world, was a system which they could understand easily themselves and which was understood throughout the world at large—and the metric system possessed those advantages. That was the system followed by scientific men in all their calculations; it was the system adopted by the French, who were particularly accurate in regard to weights and measures; it was the system adopted throughout the United States of America; and that system must be adopted here, sooner or later: the only question was whether they should take it up now, when there was a considerable amount of discontent with the old system. The difficulties involved in its adoption were extremely few, because, it being founded on the decimal system, all you had to do was to add or take away a multiple: a child might be taught it in a few weeks. It was, he believed, destined to revolutionise their whole system of weights and measures, and to bring about the decimalisation of the coinage—and the only question was whether agriculturists should lag behind in such an important matter (Hear, hear).

Mr. A. PELL, M.P., said, as a member of the committee who drew up the report, and who was not absent from a single meeting of that committee, he wished to say one or two words on that subject. By an Act passed in 1864 it was made legal to enter into contracts under the metric system: but practically the object of the legislature had been defeated in consequence of there being no provision for the legal verification of metric weights, and the committee desired that that defect should be remedied, so that parties would be able in future to adopt the metric system in contracts. He entirely concurred in what had been said about the difficulties of applying that system; but it was always inconvenient to learn one's lesson over again, especially towards the termination of one's life. In that matter they must think of the rising generation as well as themselves, and they must also think how England might be disgraced by refusing to adopt a system with the advantage of uniformity, and which had been carried out in so large a portion of the civilised world. The metric system was now in use among nearly two hundred millions of their fellow-creatures, with a large proportion of whom they were closely connected by the bonds of trade (Hear, hear).

The CHAIRMAN said he was authorised by Mr. Rigby to withdraw the latter part of the resolution relating to the central, and that being the case he saw no difficulty in the former part and the amendment being welded together (Hear, hear).

In accordance with this announcement the former part of Mr. Rigby's resolution was then united with the amendment, and adopted unanimously in the following form: "That this Council, in receiving the Report of the Joint Committee on Weights and Measures, adheres to its former resolutions to the effect that all agricultural produce, except liquids, should be sold by weight only, and that this Council, appreciating the advantages of the recommendations contained in the Report of the Joint Committee, is yet of opinion that it is desirable in

the first place to afford facilities for an increased acquaintance with the metric system by introducing instruction in its principles in public elementary schools."

The CHAIRMAN offered the thanks of the Council to Mr. J. B. Smith, M.P., and Professor Leoni Levi for their attendance, and for their lucid and valuable remarks.

The next question for consideration being, "What steps shall be taken by the Council with reference to the malt-tax?"—

Mr. J. H. HODSOLL (West Kent) moved the following: "That this Council urge the Government, when reviewing the general licensing system of the country, to consider the unjust pressure of the Malt-tax upon the growers of barley and upon the labouring classes, who are the great consumers of beer." He said that question had been urged upon the Government repeatedly; but, as yet, without any result. Farmers were still subject to all the disadvantages of the Malt-tax, and the poor labouring man had to pay 4d. a quart for his beer, when if there were no duty he might get it for little more than 2d. In fact the Malt-tax had in many districts altogether excluded beer from the cottages of the poor. The Government was, he believed, about to propose a new system of licensing for the whole kingdom, and that presented a favourable opportunity for urging upon them the oppressive nature of this tax.

Mr. T. ARKELL, in seconding the resolution, said he should not go through the old arguments in favour of the Repeal of the Malt-tax; but the evils of the Malt-tax were increasing. They were all aware that last year there was a great dearth, and that many crops were exceedingly short. Almost everyone expected that the barley crop would be made remunerative in some degree by extra price; but that was not the case. Although farmers had, as a rule, a short crop of barley, there had never been so dull and dragging a trade in barley as during the last year. There must be some reason for that, he thought, and he could say what it was. He knew something about the brewing trade, and he believed that the badness of the trade in barley might be traced to a very greatly increased consumption of sugar in brewing (Hear, hear). He hoped that some of the agricultural members would move for a return of the quantity of sugar used during the last year in brewing. There was a very moderate import duty on sugar, and brewers were allowed to use sugar if they paid an increased duty, which would bear some comparison with the duty on malt. He should like to know at what price per quarter barley was taken for that purpose, how the extra duty on sugar was collected, and whether the brewers were left to make returns as they thought fit (Hear, hear). It seemed to him that a great injustice was involved in that matter; and he was told that some brewers used sugar in the proportion of more than one half as compared with malt. He wanted malt houses to be free, and he wanted to be enabled himself to give malt if he chose to his sheep, pigs, and cattle. He had always felt the Malt-tax to be a great hindrance to him in the feeding of his animals, and having walked through the Metropolitan Cattle Market that day, he had no hesitation in saying that if there had been no malt duty, many of the animals that he saw would have been much fatter.

Mr. STORER (Notts) observed that that question was of vast importance, not merely in a financial or fiscal point of view, but also in relation to public health and public morals. The labourers of this country would be in a much better position if there were no Malt-tax, especially as regarded the temptation to frequent beer-houses (Hear, hear).

Mr. G. T. TURNER (West Kent) said that in his locality the physical powers of the labourers were manifestly diminishing. Labourers had not anything like the strong bone and muscle which distinguished their class 50 years ago; and he attributed the change to the bad quality of the beer they drank, which, instead of strengthening, seemed to injure them. Last year some of his men employed in mowing broke down with diarrhoea, and medical men in the neighbourhood thought that was owing chiefly to the bad quality of beer which they had drunk. He had two men who brewed their own beer, and they were decidedly the best labourers he had, and did the most work.

Mr. C. S. READ, M.P., said he had been asked what connection there was between the Malt-tax and the licensing system. Well, he replied, a very great connection (Hear, hear). They were both part of a great monopoly (Hear, hear). The monopoly commenced as soon as the barley passed out of the

hands of the farmer into the malt-house, and it did not cease until such time as the unfortunate consumer drank it (laughter). Therefore he said that if the Government were going to review the general licensing system it was the duty of that Central Chamber to impress upon it the far greater evils of the Malt-tax, not only as regarded them as growers of barley, but also as respected the morals and health of their labourers. It was very singular indeed to trace the working of that monopoly. One might easily fancy that under that great brewers' monopoly there would be very few public-houses; but somehow or other there were a great many more public-houses than could possibly be required. The other day it was stated in the Norfolk Chamber that in the city of Norwich, which had about 80,000 inhabitants, there were no less than 800 public-houses and only 150 bakers (Hear, hear). Eight hundred public-houses could not possibly be wanted for such a population. Some persons might tell them that the result of such competition must be that the public got the best quality of beer; but the truth was, that in order to live, that vast body of publicans had to resort to adulteration.

Mr. CORRANCE, M.P., said that members of Parliament had to encounter considerable difficulties in dealing with that question, and he felt sure that in discharging their duty, they would meet with due consideration on the part of Chambers of Agriculture and their own constituents. While proposing remissions of taxation, the Government had wilfully lost many opportunities of reducing the malt-tax, and its attention must again be directed to the evils complained of. The deputation which waited on the Chancellor of the Exchequer last year, left him with sanguine expectations that something would be done; but those expectations were cruelly disappointed (Hear, hear). On a previous occasion when that question was discussed, he (Mr. Corrance) expressed doubts as to the feasibility of the change proposed by the committee, viz., that the tax on malt should be placed directly on beer, and warned the Chamber that that would raise opposition from two most powerful interests. In his opinion, they should seek assistance from every quarter where it was to be obtained (Hear, hear). He thought that when that question was again brought before the House of Commons, it ought to be submitted, if possible, in the shape of a substantive resolution, the terms of which should be carefully chosen; and in his opinion, the Council ought to thank Mr. Read and the Norfolk Chamber for having laid their hands upon a strong point, which would bring the question to a distinct issue.

Mr. H. BIDDELL hoped the honourable gentlemen who had just spoken would not fail to express his feelings in the same manner in the House of Commons. If there were any men who avoided the use of strong language in Parliament it was the advocates of farming interests (laughter). He would not say that behind their backs, but preferred doing so in their presence; and he must say that some of them had thrown away many opportunities. For example, after the introduction of the Budget of last year, Col. Barttelot was reported as follows: "Col. Barttelot acknowledged as a boon to the agricultural interest the privilege about to be given them—to use sprouted malt as food for cattle—but suggested that a further concession should be made by remitting the duty on farm-horses when employed in repairing roads" (laughter). Another hon. member, whom he would not name (Mr. Read was understood to be here referred to), did better. Having naturally expressed his disappointment that there was to be no reduction of the malt-tax, he went on to say "that he was very glad that the sugar duties were reduced, though he would rather have had the chance of growing barley against all the world." He (Mr. Biddell) wanted both Mr. Corrance and Mr. Read to say boldly in the House of Commons that it was a matter of morality, of justice, and of necessity that the malt-tax should be abolished. Just after the scene to which he had alluded, an hon. member told him that Mr. Read was the only man who made anything like a protest on behalf of the agricultural interest, adding that, immediately after the Budget most of the members rushed out to dinner. If these members rushed out to dinner under such circumstances the malt-tax would never be repealed (laughter and "Hear, hear"). If gentlemen who represented agricultural constituencies, instead of rushing out to dinner would wait till they had said what the occasion demanded, something might soon be done in the right direction. He hoped the gentlemen to whom he alluded would take what he had said in good part (laughter).

The CHAIRMAN said he hoped that when another deputation waited upon the Chancellor of the Exchequer on the subject of the malt-tax, Mr. Biddell would form part of it (laughter).

The resolution was then put and adopted.

Mr. W. MARSHALL (Cambridgeshire) proposed "That, in the opinion of this Council, some legal provision is necessary, and ought to be made for enabling persons interested in occupation roads, not being highways, to co-operate for the purpose of making, imposing, and maintaining such roads at their own charge, and that the subject is one of sufficient public importance to justify an application to the Government to initiate legislative action thereon in the next Session of Parliament." Mr. Marshall, in the address which he delivered, frequently referred to a bill which he had prepared for submission to Parliament. After remarking at the outset that the roads of this country were divided into public and private roads, the latter being, as it were capillaries in the great circulating system, he observed that important as private or occupation roads were there was at present no legal provision for keeping them in repair, and his object was to supply that defect. What he proposed was, that the parties interested in such roads should be enabled to put their hands in their own pockets, not in other people's, to remedy the evil which had been so much complained of. Where an occupation road belonged to a single individual there was no difficulty in the matter; but where a number of persons were concerned, they could not at present impose a tax for the common benefit in consequence of mortgages, leases, settlements, &c., which interfered with common action or a fair apportionment of expense. He desired that a general measure should be proposed in Parliament enabling persons who were in the position which he had described to co-operate for the end in view. He proposed that there should be a preliminary meeting of the owners and occupiers of land who were concerned, the former sitting and voting, if they pleased, by proxy, to determine whether or not any expenditure should be incurred, and that if two-thirds of the rateable value were represented at the meeting and it were thought desirable to adopt the Act, it should be adopted and a road surveyor appointed to take the necessary steps as regarded repairs. If persons wanted to make use of the Act, they might do so; if they did not, they might leave it alone.

Mr. JOSEPH MARTIN (Cambridgeshire), in seconding the motion, testified to the want of such a measure as that indicated in the tale of Ely.

Mr. WHITAKER observed that there were an immense number of occupation roads, and he feared the result if what was proposed would, in many cases, be to inflict heavy burdens on persons who would receive no corresponding benefit.

Mr. GENGE ANDREWS concurred in this view.

Mr. MARSHALL stated in explanation that the objection on the ground of inequality of benefit was met by a provision for insuring different proportions of rating according to circumstances.

The motion was then adopted; after which, on the motion of Mr. C. S. Read, M.P., it was resolved that a copy of the motion relating to the malt-tax should be forwarded to the Chancellor of the Exchequer, and a copy of the one just passed to the Home Secretary.

Mr. GENGE ANDREWS, who had a notice of motion on the paper, declaring that "highways should not continue to be a charge on real property only through the poor-rate assessment," said he had received a hint from the Chairman that he had better postpone it until the next meeting, adding that he was quite willing to take that course on the understanding that at the next meeting it would be placed at the head of the agenda paper.

A discussion ensued on this question, in the course of which Mr. Andrews complained that, although he sent his notice two months ago, and it ought to have been near the head of the paper, it was placed near the bottom.

Mr. C. S. READ, M.P., observed that Mr. Andrews must not suppose because his notice happened to be sent first that it would be first on the agenda paper, as that might entirely upset the arrangements of the business committee, who must, in fact, decide all such questions (Hear, hear).

Mr. ANDREWS said he had always entertained a very strong objection to a limited business committee. A limited business committee, with a chairman at its head, might barke any question if allowed to put it at the tail of the agenda paper.

Mr. T. DUCKHAM defended a business committee, and urged that Mr. Andrews's motion should be disposed of at once, as it had been already discussed by every Chamber of Agriculture in the kingdom, and was not of sufficient importance to occupy a whole sitting.

Ultimately the motion was postponed, and it was arranged that it should stand second in order for the next meeting, the first relating to local taxation.

On the motion of Mr. D. Long, made on behalf of Sir G. Jenkinson, M.P., who had left the room, the following was then agreed to: "That the subject for consideration at the March meeting of the Council be, 'The present unjust incidence of local taxation, and what further action shall be taken to obtain an entire revision of the same.'"

On the motion of Mr. A. Pell, M.P., a vote of thanks was given to the Chairman for the able manner in which he had presided, and the meeting then separated.

THE CENTRAL CHAMBER OF AGRICULTURE

ITS INCOME AND EXPENDITURE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—You have noticed the Central Chamber asking for so much money; I wish you would show them up for the way in which they spend it. It appeared from the Report read on Tuesday, that £170 had been paid to the Central Council for railway fares, and that the general expenses for the Central and the Local Chambers were £243. The chairman informed us that there were 176 members, and the auditor told us that 30 of these had not paid, so that the income of the Central could not be more than £146. I do not know what share of the general expenses the Central ought to pay, but by the time they had paid their own Council they had less than nothing to pay expenses with. Now I think this most shameful that they should draw upon the Local Chambers to pay the Council elected by themselves, when the Locals have also their own deputies to pay. Yours truly,

A MEMBER OF THE CENTRAL CHAMBER.

[The Chairman, nevertheless, it will be seen, made an appeal for more money at the meeting on Tuesday—for an office and for the secretary.—EDITOR M.L.E.]

THE NECESSITY FOR "HALF-RATING."

At the dinner of the Herefordshire Chamber of Agriculture the Chairman, the Rev. ARCHER CLIVE, could not help thinking that it was a very great hardship upon tenant farmers, who had taken their farms upon the condition that they should pay all parochial rates, which was a matter of easy calculation beforehand, that they should now be called upon to pay an educational rate which at the time of the taking of their farms was never anticipated. For his own part, he fully agreed with the Government measure, and thought it highly desirable that it should be carried out as far as possible. But he did not think it fair that men who had taken their farms on the supposition that no additional rates would fall upon them should be called upon to contribute to the new rate for education. He thought it was a matter in respect of which Government assistance ought to be given; that was to say, assistance from the consolidated fund, which was a fund that was contributed to by all classes in the nation. At the same time he might remind them that if they were to have Government assistance they must also have Government interference. They would be subjected to a difficulty which met them very frequently even now—the difficulty of getting rid of an obnoxious officer. The schoolmaster, being paid in part by the Government, would be not, perhaps, appointed by the Government, but he would be retained in his place by the Government, and would not be dismissible by those who, after all, really employed him. He did not say that this was any reason why no

Government assistance should be received; but he stated it simply in order to show how impossible it was that any system should be instituted which did not present difficulties. With regard to the educational rate he thought that if no Government assistance was given in respect of that matter, which was quite a new thing, the rate ought to be laid upon the property itself rather than upon the occupier of that property. And yet there was this difficulty in regard to this matter—that if the burden were laid upon the actual owners it would not be just that the occupiers should vote away the money which the owners were to pay. For there was no principle in the Constitution more clearly established than that those who paid a tax should have a voice in the distribution of the produce of that tax; and, therefore, if the burden was laid upon the owners, they would be the persons to apply to for the purposes for which it was intended. He mentioned this as a matter for consideration with reference to petitioning the Government to give assistance in the matter, not only of education, but other county burdens; regard being had to providing against undue and vexatious interference by Government officials in the spending of that money which, though partly granted by the Government, was largely contributed to by the ratepayers of the county. He did not know that he need say anything more on this subject, for, as he had said before, they were quite willing to undertake that which in justice belong to them; but they were not prepared to pay for those who were quite as much interested in the prosperity of the country, and therefore quite as much obligated by justice to contribute their share towards the local burdens.

[It does not appear to have struck the reverend gentleman that at least until some new system be adopted, the landlord should in justice pay his share of any new tax.—EDITOR F. M.]

THE TENANT-RIGHT LEASE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Your last issue contained the covenants of this lease, as approved by the Devon and Cornwall Chamber of Agriculture, and as if unanimously agreed to, but this I beg to deny. At our general meeting, in January, I declared my protest, and I am aware that the tenant-farmers generally, in this district, do not approve of it. The lease was prepared by a Committee chosen in the Council, composed principally of landowners and land-stewards. This lease is very similar to the one introduced some years ago in the county of Suffolk, by Mr. G. K. Cooper, and containing so many useless clauses, that I believe it has not been adopted; nor can the tenant possibly act up to it without disadvantages to himself, thereby tending to arbitration or litigation, and injurious to all concerned, except the legal profession, where folios are an object. Why should the farmer be limited in his business, in cultivating and manuring his farm? No other classes are asked to do so in their business. As long as those restrictive clauses continue, so long will they impede British farming.

I will offer my opinion on this all important subject. No practical tenant-farmer objects to have the landowners' property in every way secured from spoliation. The tenant ought to have 21 year's term at least, with re-arrangement at the end of 18 years, to farm as he thinks best for himself, and that will be for the benefit of the landowners and the community. The best managed farms in the United Kingdom are under long terms, and not confined to many of the clauses contained in this law-digested lease. I think it right to inform the tenant-farmers that Mr. H. Clark is a barrister on the Western Circuit, consequently his knowledge of farming must be very limited, as you can conceive by his production.

I remain sir, your obedient servant,

CHRISTOPHER SPEAR.

Tipwell, St. Mellion, 9th Feb. 1871.

AYRSHIRE FARMERS' CLUB.

At the quarterly meeting, Mr. R. M. Cunninghame, Shields, president of the Club, in the chair, Mr. Robert Stevenson Hillhouse, read a paper on "the Progress of Agricultural Science, and the Benefits of Chemistry in Determining the Nature and Commercial Value of Manures."

Mr. STEVENSON said: The importance of agriculture to all the substantial interests of mankind is so fully recognised, that it may be deemed a matter of surprise that its progress has been so slow down through the ages of time. Those nations that skilfully practise it always enjoy superior advantages over those who slothfully neglect it. Many of the sciences are ardently engaged in by men of reflective mind to increase their appreciation and enlarge their views of Nature. Nothing tends more to enlarge the mind and increase our spheres of usefulness and pleasure than the development of agricultural science, which has for its object the discovery of principles in vegetation hitherto unknown, and the spreading of useful knowledge among a wide range of mankind, and by superior cultivation to increase the productive capabilities of the soil, by supplying those ingredients which the soil and the atmosphere are capable of yielding in sufficient quantities to promote vigorous vegetation. The importance of this science to the welfare of the community being proved by its progressive improvement, some few remarks upon ancient cultivation are necessary to our subject. Some faint attempts at cultivation of the very rudest and simplest kind appear to have been made in this country about a century prior to the invasion of Julius Cæsar. We have no direct information as to the position of agriculture during the dominion of the Romans, but from their invariable practice of introducing their customs into all their conquests, and also from the still-existing remains of Roman roads and other vestiges of civilization, it may be inferred that great improvements were made in agriculture by them. From the writings of ancient authors we learn that agriculture among the ancient Romans was little inferior—in some points superior—to our own. Amidst their endless wars and intestine commotions, they always appreciated the advantages of a superior cultivation of the soil. The most illustrious citizens engaged in it, and the most renowned generals retired from their conquests to seek in it a happier life. Cultivated minds became associated with it so that they might behold the beauties of Nature and admire the charms of rural life. Callumala recommended draining three feet deep, half filled with stones or gravel, as essential for the proper treatment of the soil. The benefits of manuring were appreciated, and it was considered indispensable, along with good cultivation and proper seed, for vegetation. Their opinions as to the strength, quality, and application of the dung from the various animals were in many points similar to our own. But the mechanical skill displayed in modern agricultural implements; the use of artificial manures, and the cultivation of root crops, were by them unknown. Their management of the dunghill deserves attention even at the present day. Their dungstead was deep in the middle—a kind of large basin, paved at the bottom, partially built up at the sides, the top covered with woven branches of trees to preserve it from the action of the sun and the injurious influence of rain, so that they might retard fermentation and prevent evaporation. At certain seasons it was turned over and thoroughly incorporated together. As some of their crops required it to be kept over a considerable time, pits were dug in the ground, carefully prepared and securely covered, so that none of its nutriment might be destroyed. With all the scientific knowledge and intelligence of our age, there is not the attention paid to our dunghills that the requirements of modern agriculture demand. The dung is often carelessly heaped together, exposed to all the scorching heat of a summer's sun, and the washing of much of its important ingredients by the rains of winter. We have little conception of the waste that thus occurs, or the benefits that protection and careful attention would bestow. Husbandry was reduced to the very lowest state of imperfection during the Saxon period. The implements were of the very rudest description. Iron seems to have been little used

in the construction of field implements. Land was of so little value, and yet so little was cultivated and so deficient was the tillage, that it barely afforded bread of the very coarsest kind for a scanty population. Rents were payable in produce; money was of comparatively little use, for commerce could scarcely be said to exist; the internal communication, from the want of roads and means of conveyance, was so imperfect as to allow of little more than a barter with some neighbouring village of the produce for articles of wearing apparel. At the time of the Norman Conquest the country is described as in the field land and unenclosed pasture, with vast tracts of forest as little valued as the wilds of America at the present day. The Normans being more advanced in civilization and intelligence, agriculture under them would have made improvement; but the devastation of wars and destructive revolutions rendered land the least valuable kind of property, though it must ever be the most permanent of all possessions. The condition of the lower class was of a most enslaved and degrading nature. Their houses were mere huts, without windows or chimneys, and possessed of little furniture except the few common utensils requisite for the preparation of food. Without the stimulus of trade, there was no incentive to labour to produce food more than would afford a mere subsistence. But, with the extension of the arts and sciences, new sources of industry, of wealth, and national strength are opened up for the benefit and comfort of man. The "Book of Husbandries," published in 1523, by Sir Anthony Fitzherbert, Chief Justice of the Common Pleas, an experienced agriculturist, who has been considered the father of agriculture in this country, contains remarks upon the management of cattle and axioms of tillage which are in accordance with some of the opinions and practices of the present day. From the description he gives of the domestic life of the farmer, we must conclude that it was inferior to that of the common labourer at the present day. The stock was usually furnished by the owners of the land, and charges are even found in some old manorial writings for the hire of the laird's plough. The art of manufacturing brick being lost after the Roman period, was not recovered till the reign of Richard II., when the employment of bricks in building chimneys and farm-houses tended much to their improvement. The field culture of roots and artificial grass was unknown until attention was called to the cultivation of clover in the middle of the seventeenth century by the writings of Blyth. Many industrious farmers began to cultivate that plant together with turnips, said to have been introduced about that time. Agriculture began now to be treated as a useful science, and persons of influence and education began to take an interest in the cultivation of land and further its progressive improvement. Many causes may be assigned for the inactivity of former times. The wars, revolutions, and intestine commotions of the country combined with the feudal system enervated the faculties of the farmer and kept him in a state of abject vassalage and dependence, while a general want of capital retarded every improvement. The mind being kept from expanding, there was not the same spirit of inquiry or desire for improvement. The writings of Jethro Tull, in the eighteenth century, formed a remarkable era in the progress of agricultural science. This ingenious author, having observed the excellent effects produced by the mechanical influence of a superior cultivation in causing a minute division of the soil, and the advantage derived by exposing it to the atmosphere, in pulverising and increasing its activity, was misled into carrying his views too far. He advanced the opinion that minute and earthy particles supplied the whole nourishment of the vegetable world, that air and water only acted in disintegrating the earthy particles, and attempted to prove by experiments that by superior cultivation vegetables of every kind are capable of being raised in succession without the addition of manure. Although he was afterwards led to modify his opinions, many practical advantages were derived from his superior system of management and cultivation, which led to the application of draining as the founda-

tion of all permanent improvements. The Government being desirous to stimulate and further the progress and development of agricultural science, a Board of Agriculture was established in 1798. A survey was made of all the various counties, and the statistics, collected by able and experienced men of business, who had access to all the practical farmers, reviewing their farms and specifying their mode of management, together with their own observations, were published for the diffusion of practical information. Had their reports been more simplified, according to the tendency and requirements of the age, more practical benefits would have been derived. Farmers in the last century laughed at the idea of learning anything from books. Of retrospective rather than prospective habits, they were more ready to till the soil as their fathers had hitherto done than adopt any new plan or system of improvement. Having learned the mere rudiments of general knowledge, they were withdrawn from school to assist in the operations of the farm; hence the old adage, "A reading cook and a writing farmer never come to any good." With the extension of education, practical farmers acquired the power, of which they were in a great measure destitute, of expressing their ideas and embodying the results of their experience in oral discussions and written reports. Agricultural associations and farmers' clubs have now been established, and a spirit of emulation and rivalry has been excited in the breeding of cattle and the cultivation of land. Subjects of interest are discussed, the opinions and experience of others are compared, a spirit of inquiry introduced, and a stimulus given to practical improvement, which, along with the ingenuity, skill, and superior workmanship displayed in our modern implements, may justly be considered to have introduced a new era in the progress of agricultural science. It is not to be wondered at that the theory of agriculture that formerly existed was nothing but the crude thoughts and fanciful speculations of ancient writers. Water being so necessary to vegetation, led to the opinion, so prevalent among ancient philosophers, that it was the great productive ingredient. Air was regarded as a pure element, and its influence on vegetation was unknown. Others maintained that humus, or the decayed vegetable matter of the soil, was the entire source from which the nourishment of the plant was derived, that the fertility of the land was only benefited by the application of vegetable matter; and some considered that minute and finely-divided particles of the soil was all that was necessary to vegetation, and that good cultivation and exposure to the atmosphere would ensure its fertility, manure being only of secondary importance to assist the mechanical division of the soil. It was not till the commencement of the present century that agricultural chemistry began to take its place as a useful science, and exert its influence to dispel much of the darkness and ignorance of former ages, and explain many of the mysteries and beauties of Nature as illustrated in the principles and laws of vegetation. The important and elaborate investigations that have been made to ascertain the composition and nutrition of plants, the action of the atmosphere, and the composition of soils, the attention that has been given to ascertain the nature, composition, and value of manures, with the interesting and important papers that have been written pointing out their mode of action and fertilizing constituents, all tend to what is most desirable—the union of practice with science. It is from the combined results of practical observation and scientific research that just systems of husbandry can be deduced. Farmers ought to know something of chemistry, and chemists something of practical agriculture. Sloth and self-conceit are the enemies of progress, and make a man deaf to all instruction. The most hopeful symptom of our times is the restless activity to make progress and increase our boundaries of knowledge. Sir Humphry Davy has been styled the father of agricultural chemistry. His important investigations and interesting lectures in the beginning of the present century opened up the way for other able investigators. Although he divided the vegetable constituents into organic and inorganic matter, derived from the air, water, and the soil, he demonstrated that the action of the atmosphere not only promoted those chemical combinations in the soil necessary to vegetation, but also afforded nutriment to the growing plant. Yet his views as to the form in which the food was assimilated and prepared were neither clear nor distinct, owing to the imperfect state of the science and the want of proper experiments. Liebig has the merit of being

the first who laid before the public clear and practical views of the laws and principles of vegetation, and the economy of nature. He has laid the world under a deep and lasting obligation for what he has done for agriculture. The novelty of his theories, the boldness of his opinions, and the clearness with which they were put forward, created a sensation among scientific and practical agriculturists. He found that upon all soils in the most varied climates, plants invariably contain not only organic but also a certain number of mineral substances, their nature and quality being ascertained by finding the composition of the ashes; that the fertility of the soil depended on the presence and amount of these fixed and mineral substances; and that carbonic acid and ammonia are absorbed from the atmosphere by the leaves in greater quantities than what is contained in the plant. The patenting of a manure under Liebig's name, which proved very unsuccessful, led to erroneous views and mistaken opinions as to his theory. While nitrogenous manures are necessary, he considered an adequate supply of those mineral constituents which the soil could not otherwise obtain, the most essential and important. He held that water was not only a solvent but a nutritious element, indispensable to the whole process of vegetation, as rain dissolves not only a certain portion of these mineral substances, but also supplies carbonaceous matter and ammonia. A shower in warm weather contains more of these than in cold or wet weather, and the first drops contain more than the last. By thunder storms, fogs, and the distillation of dew and rain, considerable quantities of these fertilising substances are received. Spring and river water contain about four times less ammonia than rain water, from which is derived the fact that the ammonia is detained in the soil, while the pure water runs on and forms the rivers and springs. The fertilising influence of the atmosphere is mainly due to the carbonic acid and oxygen gas it contains. Carbonic acid is formed by the decomposition and fermentation of decaying vegetables and organic matter, and the respiration of all living creatures and animals which inspire. Oxygen, which penetrates into their lungs, combines with the carbon of their food, forms carbonic acid gas, and is thrown off from their bodies in perspiration and breathing. The air exhaled from their lungs is not wholesome, as it contains from three to five per cent. of carbonic acid, while from three to ten parts in ten thousand is the average proportion in pure air. Thus every animal during life, every fire, and every substance under decay, poisons the air by sending out portions of this deadly gas. Wind stirs the air, and is therefore beneficial by mixing it; but this is not sufficient for keeping the air pure for animal life. The plant is the great purifier of the air. As fast as animals and other carbonaceous-forming agents emit the poison, the whole vegetable world absorbs and decomposes it by means of energies received from the sun. In the dark, plants are mere filters. Then their power over this gas is gone. From sun-rise to it going down they actively perform their task of retaining carbon of which they form woody fibre, and give back oxygen to the air, so that they both purify and enrich it. The animals form carbonic acid for the use of plants, and plants give out oxygen for the use of animals. In this way are balanced the animal and vegetable kingdoms. Plants do not take in a visible quantity of food into a conspicuous aperture, like the mouth of an animal, but by means of innumerable minute apertures in the extremities of the roots, furnished with a substance like a sponge, called spongy tissue. Plants have no stomach, but in the soil through which their radicals spread, their food undergoes a preparation analogous to that which the food of animals is subjected to in their stomach. Their leaves are furnished with a porous texture for imbibing, and tubes and cells for assimilating and absorbing, the carbonic acid gas from the atmosphere. Thus do we see the wise and intimate relation between animals and all living vegetables. As the water is distilled from the ocean, carried by the clouds and again deposited upon the earth as rain and dew, so those substances which all animals and living creatures breathe are stirred by the wind, carried through the atmosphere, and again deposited upon the earth as nutriment for the growing plant. The limits of this paper will not permit us to show the importance of science in determining the nature of soils, the constituents of plants, or the amount of the mineral ingredients removed from the soil by the various crops and rotations, but merely to remark that soils may be considered as consisting of matter in three distinct conditions. The first may be termed the active

matter of the soil, existing in a condition capable of being dissolved in water, and available for entering into the circulation of plants; these are the materials which influence the immediate fertility of the soil and regulate its productive character. The second is called the dormant matter, being insoluble in water, and therefore unfit for immediately entering into the structure of the plant; but when acted upon by the chemical agents of the atmosphere and the soil, gradually changes to a soluble condition, and assumes an active and nutritive character. The third condition is the gritty or stony portion, the type of the original rock from which all soils are produced, being the fractured particles which have withstood the atmospheric agency for a longer period, but which gradually becomes broken up into a smaller and finer state, and changes into the condition and appearance of the dormant matter. In all soils there is a progressive advancement. Should that which is stored up in an insoluble condition be prematurely dissolved by artificial means, and those that are carried off by the plants not be restored, the soil will ultimately become exhausted. Hence the effect of raising crops from nitric acid and sulphate of ammonia alone, is more like living upon capital than interest, their action being more of a solvent and stimulating nature than direct food for the plant. While we pride ourselves on the increased produce we obtain we are apt to forget that it may be at the cost of a future diminution of the crop. Should these substances be frequently applied without the application of phosphoric acid or farm-yard manure, the land will ultimately become exhausted. The air constantly shifting is always prepared to yield a supply of the fertilising substances of the atmosphere, so that the exhaustion of a soil is often due to the removal of the fixed and mineral substances which it cannot otherwise obtain. Not that nitrogenous manures are unnecessary; on the contrary, if applied in moderate quantities upon some lands, they are highly beneficial. Clay and heavy land being of a close and compact nature, the circulation of air through its particles is very imperfect; the atmosphere has not the same influence in pulverising and promoting those changes of the soil necessary to vegetation, and in such a case the application of ammonia and other nitrogenous manures by their chemical action upon the dormant matters of the soil tends to promote the disintegration of these substances, and hastens on the process of fermentation and decomposition which is naturally slow upon soils of this nature. The present resources of the soil, are thus developed and made available as food and nourishment for the plant, although we do not consider that new sources of food are added to the soil. The power of bones to lighten strong land by their chemical action, and thus render it less adhesive, is small. If put on to a large extent they would have some effect, but the small quantity usually applied renders this force insignificant. But they increase the productive capabilities of the soil by supplying phosphoric acid to the growing crops. As a general rule manures containing ammonia are best adapted for soils of a cold and inert nature, bones being most beneficial upon those of a light, dry, and porous nature, which require a much larger application of mineral substances of a more firm and solid kind. The atmosphere penetrates freely through soils of this nature, and soon disintegrates and consumes the active matters contained therein. Manure is the term used to designate all vegetable and mineral ingredients which, applied to the soil, increase its productive capability, or, when exhausted by cultivation, restore its fertility. Manures act partly as food for plants, and also, by their mechanical influence in assisting the operations of tillage on some soils, they frequently exert as favourable an influence as by the actual increase of the nutritive substances. Nature teaches us the course we ought to adopt, in supplying us with farm-yard manure, which must ever be the great mainstay of the farmer. The fertilizing constituents are present in dung in states of combination which are especially favourable not only to the luxuriant growth of our crops, but also to maintain the future fertility of the soil. It is a universal manure, because it contains all the constituents which our cultivated crops require to bring them to perfection, and is suited for every description of agricultural produce. The mechanical effect of farm-yard manure is also important; for plants, like animals, need not only food but room to breathe. From the known value of, and benefits derived from farm-yard manure, it is a matter of surprise that so little attention is bestowed upon its management. The nutritious

substance of the manure must depend upon the nature of the cattle kept—whether growing animals or feeding stock—and the food with which the cattle are supplied; but the preservation of it without loss of its valuable constituents depends upon the care devoted to it, and this calls loudly for improvement. All plants require a supply of organic and inorganic elements for promoting vegetation. Ammonia, carbonic acid, and nitric acid are volatile, and are found not only in the soil, but are supplied by the atmosphere—being distinguished as the organic element of vegetation. Phosphoric acid, sulphuric acid, potash, soda, lime, magnesia, chlorine, and silicas are all confined in quantity to the soil, being of a fixed or inorganic nature. The discovery by chemists of the substances necessary to vegetation led to the application of artificial manures. Their nature, properties, and composition have naturally received a large amount of attention from scientific and practical agriculturists. It is not necessary that an artificial manure should contain all the constituents of the crop. This is a condition rarely if ever fulfilled. Those of soda, sulphuric acid, lime, and chlorine are least necessary. Potash and magnesia are more important, though not essential. Nitrogen and phosphoric acid are absolutely indispensable. The fertilising influence of Peruvian guano is generally attributed to the ammonia, but it is equally certain that much of it is also due to the phosphates it contains, being nearly one-fourth part of the whole. These are in an extremely fine state of division and combination, are easily made soluble in the soil, and are of much higher value than the ordinary bone earth phosphate of lime. A mixture of salts of ammonia and bones, to make the amount of nitrogen and phosphoric acid equal to guano, is not so nutritious nor beneficial. Guano weighs from 68 to 70 lbs. per bushels, and leaves one-third of a white ash when burned; if more than this, adulteration may be suspected. Sulphate of ammonia, when pure, is colourless, dissolves easy and with very little residue in cold water, and when heated over a lamp entirely volatile, contains about $24\frac{1}{2}$ of ammonia, and from 2 to 4 of impurities. Nitrate of soda contains about 95 per cent. of the salt and about 5 of impurities. Common salt, when sprinkled upon red hot coals flies about with a crackling noise, but the salts of nitrate of soda do not so. Crushed bones or bone-dust may be adulterated with earthy mixtures. Their presence may be detected by mixing with water, when the lighter particles may be washed off, leaving the heavier sand and earthy matters at the bottom; or by burning a weighed portion in the air at a red heat; if the ash exceeds half the weight of bones, earthy or other matter has been added. Dissolved bones ought to be sour to the taste, and water mixed with them and allowed to stand should become distinctly sour. Phosphoric acid is used by agriculturists in two different states of combination. It may be used in the form of the ordinary phosphate of lime, which is insoluble in water, such as exists in bones, coprolites, &c. But there is another condition in which by the application of an acid it is brought into a state of division easily dissolved in water, called soluble phosphates. As all food of plants must enter into their system in the soluble form, this must ever be the most valuable and important for supporting vegetation, while the insoluble has to remain in the soil till brought into the soluble form by the influence of the atmosphere and the acids of the soil. In bones and all other substances phosphoric acid is in combination with lime; but sulphuric acid with its superior attraction for lime withdraws it from the phosphoric acid and forms with it sulphate of lime or gypsum, and leaves the compound commonly known as biphosphate of lime, which contains only a third of the lime existing in bone earth phosphate. Some consider that sulphate of lime, which forms so large a constituent of the analysis of superphosphate, is added by the manufacturers; but his efforts are more to keep it down, as a large proportion of it excites suspicion and distrust on the part of the farmer, it being impossible to produce biphosphate of lime without also containing $1\frac{1}{2}$ times as much gypsum. As the raw materials contain also carbonate of lime—especially if coprolites—which by the acid is converted into sulphate, we often find a much larger amount. A point of great importance is to determine whether the soluble is always the most economical form in which phosphates can be employed. That it is often so cannot be denied. An immediate profit being important, it can never be advisable to keep artificial manures lying in the soil for a length of time unproductive. But upon lands of a light nature, the insoluble phosphates in a high state of divi-

sion, such as exists in bone dust, are highly beneficial. The value of superphosphates depends upon the nature of the substances from which they are derived. Chemists are agreed that soluble phosphates are the same, from whatever source they are produced, although many practical farmers think differently, believing that those made from bones are of a higher commercial value, being more of an animal nature, and therefore existing in a different state of combination, being smaller, softer, and more porous in their particles and more fertilising, and sooner available for vegetation than when they are derived from coprolites. Experiments are urgently called for to determine the value of soluble phosphates derived from different sources. By using a large amount of sulphuric acid a manure made from coprolites may yield a good per cent. of soluble phosphates; but the insolubles are of little or no value to the land; owing to their hard and almost impenetrable nature they require to remain a long time in the soil before they can be rendered soluble and available as food for the plant. All insoluble phosphates in manures derived from this source are of very little advantage to the farmer. Superphosphate should be purchased in the soluble form, and if the nature of the soil requires a part in the insoluble, mix it with bone dust, which is more easily assimilated and dissolved. Concentrated manures and various mixtures ought not to be encouraged. The sale of manures would be much simplified if farmers would purchase the several constituents in a separate condition, and mix them together according to the nature of the soil and the crop to which they are applied. Under the present system more depends upon the intelligence and skill of the manufacturer than the knowledge and experience of the farmer. The more simple the form in which the substances are purchased, the less liability is there to deception. A farmer who has a knowledge of the intrinsic value of manures is enabled to guard himself against imposture by the aid of chemistry in establishing a method of expressing the value of all the substances of manures, and insisting on the method of selling by analysis, accompanied with a guarantee of the substances they contain. The analysis should also contain the date of manufacture, and the signature of him by whom the analysis is made. But how few take the trouble to satisfy themselves that the manures received contain the substances guaranteed, or are commercially worth the price they were sold for. Makers of chemical manures buy the materials they use by analysis, and why should farmers be less alive to their own interest? The trouble is little and the expense nothing compared with the interests at stake. The honest manufacturer will assist and encourage the farmer to secure a genuine manure, because he knows that the result will be to his advantage. The dealer who undervalues and considers analysis unnecessary, sells a manure that will not bear investigation. The plan pursued by chemists in the valuation of manures is simple and easily understood. All substances for the growth of plants have a definite commercial value; the quantity of each ingredient is estimated by its value, and the amount is determined by adding the whole together. No system of valuation can be made perfectly complete; for it is well known that many samples can be produced at a cheaper rate and analyse well, while others do not analyse so well, but show a better result in the field. Bones being rarely used alone, are generally mixed with bone ash, or, if a cheap manure, with coprolites and other substances. The condition of a manure is also of the highest importance. A damp and ill-reduced manure is not so valuable as a carefully manufactured article in which the various constituents are brought into a dry and fine state of division. But chemists have been able to form a general system which is a sufficient approximation to the relative value of these substances. Agriculture is much indebted to Professor Anderson for his many able reports and investigations, and the clear and comprehensive style of his writings and publications; and to Professor Voelcker and Messrs. Gilbert and Lawes for the many experiments undertaken to ascertain the nature of manures and the laws and sources of vegetation. Experienced chemists have adopted a nearly uniform method of expressing the analysis—the different constituents being arranged under several great heads. All expressions such as phosphate and carbonate of lime, sulphate of lime, potash, and soda, should be rejected, because in place of giving an estimate of the value of a manure, they are only calculated to mislead and confuse the purchaser. In some analyses the ammonia is not stated separately, but given as sulphate of ammonia. Now, ammonia is

the substance determined, and there is no reason why it should be calculated into sulphate, which contains only about 24½ per cent. of pure ammonia. Those who are not acquainted with the terms of chemistry are apt to be deceived as to the amount. The analysis of a superphosphate is usually stated in the following manner, and its value determined by the standard prices given:

				PER TON.	
Water	...	...	13.26		£
Organic matter	...	...	14	at 20 10s.	...
Biphosphate of lime	...	...	14.74		7
Equal to Soluble Phosphates (23)				at 27 0	...
Insoluble Phosphates	...	...	13	at 7 0	...
Sulphate of lime	...	...	87	at 1 0	...
Alkaline Salts	...	...	4	at 1 0	...
Sand	...	...	4		4
				100	
Ammonia	...	...	1.50	at 60 0	...

100—:750

Or at the rate of £7 10s. per ton.

Some manufacturers seem to consider that chemists' valuations are too low, and have intimated their intention not to abide by their valuations. We consider that soluble phosphate is too high, especially if derived from coprolites, for which from £24 to £26 is sufficient value, while that of ammonia is too low. Ammonia in sulphate of ammonia costs nearly £70, but this is the dearest form in which to purchase it. Potash, though valued at £20 per ton, is seldom found in manures in sufficient quantities to exert a beneficial influence, and except in particular cases it is not customary to take it in. In order to ascertain whether or not a sample is genuine—without determining all the constituents—it is necessary to determine the quantity of soluble and insoluble phosphates and ammonia. The main constituents being right, it may be fairly assumed that the others will not differ materially. We think the time has now arrived when meetings should be held and committees formed to consider the best and most suitable manner of purchasing manures, so as to give encouragement to the honest manufacturer, and to prevent the imposition upon farmers of worthless substances in manures. Some counties have appointed a chemist not only to test their manures, but to teach farmers a knowledge of chemistry and scientific cultivation. Many farmers consider it too dry and intricate a subject for their comprehension; but the elements of agricultural chemistry, and a practical knowledge of the analysis of manures and feeding substances, ought to be taught in our principal academies in this country. Some counties and associations have a chemist who receives a small salary, and makes analyses of the manures at reduced charges. Others advertise for a large quantity of manure, offers are received, the manure tested upon delivery, and then it is divided out among the members. In some places a co-operative system of manufacture of manure has been introduced. To secure a large number of members, small shares are allotted, and are taken up both by landlord and tenant and others interested in agricultural prosperity, and the whole is entrusted to the superintendence and inspection of a large and influential committee. Co-operation has of late been very successful in many branches of business, and we see no reason to doubt its success in the manufacture of manure. The object of modern cultivation being to obtain from a given surface of land a greater amount of vegetation than that which is produced by nature, requires the farmer to expend large sums for artificial manure; and his interest and success depend on the care and attention exercised in the selection and preparation of these substances to impart fertility to the plant. We must be cautious not to overlook the benefit and importance of a superior tillage of the soil being necessary for the luxuriant growth of the crop; so that not only the fertilising influences of the atmosphere may be obtained but that the roots of plants may have a freedom of action for searching after the food they require. The liberal application of manure and the proper cultivation of the soil must stand side by side as valuable co-operators in the same service. Husbandry being an operation of boundless variety, extending to many objects in nature, it is exposed to more casualties than any other branch of business, involving care, troubles, and anxieties; and these are neither few nor slight.

"What bliss, what wealth did e'er the world bestow on man,
But cares and fears attended it?"

No one will insist that agriculture has reached its highest degree of perfection. Everything must be pressed into the service that skill and ingenuity can contrive to increase the products of the soil and lessen the cost of production, to meet the growing requirements of increasing trade and accumulating population. The direction in which we may hope to obtain improvement is by arriving at more enlightened views as to the laws and principles of vegetation, and more through knowledge of the nature and requirements of the soil we operate upon, and the action of those agents by which its fertility is retained. The experience and skill acquired by observation may have been sufficient for the practice of the husbandry of the last century; but the position and practice of modern agriculture demand that the farmer should be more or less acquainted with the principles and progress of the scientific as well as the practical department of his art. There are some who consider that the progress of agriculture is not in keeping with that of trade and commerce. But be it remembered that to increase their production they have only to extend their premises and to increase their machinery. We cannot extend the boundaries of our farms without diminishing those of others. It is only by industry and superior cultivation that we hope to arrive at the desired end, as Providence, who rules the temperatures and the seasons, also determines the success or failure of our various operations. We feel assured that agriculture will never be found plodding on behind, but will always be in keeping with the progress and requirements of the age.

The CHAIRMAN then called upon the members in succession to state their views on the subject. The response to this call was not so general as usual, most of the members confessing that the subject was beyond their ability to discuss.

Mr. LEES (Carnegillan) said they were greatly indebted to Mr. Stevenson for preparing such a paper, which was more like the production of a professional chemist than of a practical farmer. The subject had been so thoroughly gone into that it left little room for discussion. The proposal was well worth considering, that this Society should arrange with a chemist to get manures analysed. Farmers were very much imposed upon by manure agents; and it would be a great advantage to them to have a chemist who would analyse any samples of manure sent to him.

Mr. ROBERTSON (Ryeburn) frankly confessed that the paper that had been read had taken the subject entirely beyond his reach. Artificial manures were little used in the district he came from with the exception of a little guano. The impression regarding them was that though they might do very well for a man who wanted to scourge his land before leaving it, they were of little use to the man who wanted really to improve his land for his own benefit. He thought Mr. Stevenson was entitled to their gratitude for the pains and labour he had bestowed on his paper.

Mr. BONE (East Sanguhar) said he differed entirely from Mr. Robertson, for he felt that he could neither pay himself nor his landlord without artificial manures. He agreed with Mr. Lees that farmers were much defrauded in this matter. Frequently they were not in a position to get the analysis checked, and therefore they had just to take the manure as it was sent to them. Generally speaking, he would say that bones and guano were the cheapest things to be got in the market. Although the price of guano has been raised, it was still perhaps the cheapest light manure they had. With regard to analysis, it was not always to be trusted. He believed they were all pretty well acquainted with a manure sold here six or eight years ago, which bore as good an analysis as any in the market. Well, one year particularly, having purchased a good deal of it, he made about thirty experiments, and he was sorry to say the great proportion of them were nearly utter failures. He afterwards ascertained that the manure was made from coprolites, which he agreed with Mr. Stevenson were of very little value to the farmer.

Mr. WALLACE (Braehead) said it was to their loss that they did not pay more attention to the subject that had been so well brought before them that night. He thought their only safeguard in buying manures was to deal with respectable parties. He agreed with Mr. Bone that they could not get on in this district without artificial manures. They would have to adopt a new mode of farming if they did not use them to stimulate their crops. He agreed with what had been said as to the value of bones, but at the same he was of opinion that

bones were not all of the same quality. Old dry bones, in his opinion, could not be of the same value as fresh ones.

Mr. YOUNG (Kilhenzie) said they were all under a debt of obligation to Mr. Stevenson for the patience and labour he had expended on this paper. The subject was one that they did not comprehend and appreciate as they ought. Notwithstanding what had been said by Mr. Bone as to the unreliability of analyses, he thought the day was not far distant when portable manures would be bought more by analysis than they had been. He thought it was the best security they could have against imposition. He was satisfied that the greater number of manure-merchants were very respectable men, and that if they did sell adulterated manures it was against their knowledge, and because they themselves were deceived. It would be well for them all to lay to heart the remarks made by Mr. Stevenson about the careless way in which they attended to their farmyard manure. It would be a good thing if the services of an analytical chemist for the county could be secured. This had been done in Kirkcudbright and other counties with very satisfactory results.

Mr. CALDWELL (Knockahoggle) said if he was not mistaken the Agricultural Association had a few years ago engaged a chemist (Mr. Smith) to make analyses of manures.

The CHAIRMAN said that was quite true, and he was very little employed.

Mr. CALDWELL said he agreed with the speakers who had said that the artificial manures chiefly to be depended on were guano and bones. Instead of buying the compounds which were offered for sale, he preferred to buy the substances by themselves, and then mix them to please himself according to the soil and crop. He remembered two or three years ago preparing a manure with bones and a little potash for potatoes. The mixture cost him upwards of £9 a ton. He was induced at the same time to buy a ton of potato manure which he was told was far better than anything he could mix. The price of it was £10 a ton, but to oblige him it was reduced to the price of his own mixture. Well, the potatoes grown with that manure were worth from £2 to £3 an acre less than those grown with his own mixture.

The CHAIRMAN said they had certainly had an excellent paper on a subject which was one of the most important that could engage their attention. They had now come to a time when these portable manures were largely used, and indeed were largely required, to enable them to farm profitably. Mr. Stevenson had impressed upon them the necessity of determining the real value of these manures; and it was undoubtedly the case that farmers had thrown away a great deal of money in purchasing manures which had been of very little value. It was a very difficult matter to decide the real qualities of a manure. It required considerable attention and considerable time to carry out experiments minutely; then there were many different things to take into consideration—the kind of soil, and, most important of all, the kind of weather which might intervene while the experiments were being carried through. He might state that he agreed two or three years ago to carry out some experiments for the Highland Society, which were set on foot on a rather extensive scale, to determine the best kinds of manures to grow different kinds of crops throughout Scotland. Well, it so happened that the first year the experiments in all the districts were a failure on account of the drought, and the second year a great many were a failure on account of the fly attacking the turnips. That was all the length he went with the experiments; but he believed there were some in other parts of the country carrying out the whole course of experiments, and they might yet get some light thrown on the subject. It was their duty as agriculturists to do what they could to ascertain the kinds of manures which were best suited to the district in which they resided. He would agree very much with some of the speakers in saying they should keep by guano and bones. He was now much averse to prepared manures. He thought the farmer should prepare them himself. There might be something in what the manufacturer said, that he could mix the different ingredients better than they could; but it was so vital to them to have a good crop that they should take the trouble of getting the substances separately and mix them themselves. The soil was not very long in setting them right by dissolving them. Indeed he was very much of opinion now, speaking for himself, that the soil of the farm he occupied did not require sulphuric acid or other substances to consume

the bones quick enough. He had to use the raw material to prevent it dissolving too quickly, for he believed it engendered disease in the plant when it was made to grow too fast. He now used no light manures but guano and crushed bones without any preparation for all kinds of crops. Mr. Stevenson had wisely recommended that they, as a club, should join together to secure genuine manures. One way might be to engage some respectable firm to furnish manures containing certain ingredients; or they might join together to import the raw material and get it prepared for themselves. He believed in this way they would have it much cheaper; and there was another advantage they would gain. When he used a large quantity of prepared manure, from a feeling of doubt he had about it, he had often applied double the quantity that was requisite to secure a good crop. Now if they got a substance that they could rely on, they could apply it with more confidence, and this waste would be prevented. He might mention that two years ago he had a plot of land that he was going

to sow with barley. He was afraid to apply guano to it, lest it should induce too great a growth of straw, and he applied for a manure that would grow less of straw. He got a substance that answered that purpose most thoroughly. He agreed with what Mr. Stevenson said about their waste of farmyard manure. He thought their landlords ought to do something in assisting them to provide covered courts and dungsteads. He believed it would be for their interest to do so, as it would enable farmers to put more and better manure on the land, and without this land would come to be of less value than at present. He would ask them to tender a vote of thanks to Mr. Stevenson for his excellent paper.

Mr. STEVENSON thanked them for the kind attention with which his paper had been received; and said that should it be the means of stimulating inquiry, the aim and object of the paper would have been attained.

After a vote of thanks to the Chairman, the meeting broke up.

THE MIDLAND FARMERS' CLUB.

At the February meeting, Mr. Wm. Brewster in the chair, the Rev. A. G. BROOKS of Shrawardine, Salop, read the following paper on The Breeding and Management of Poultry:

The subject was one of considerable importance, and he hoped that his remarks would lead to an interesting and instructive discussion. When they found from statistics that an immense quantity of poultry of all descriptions was annually imported into this country from France and Germany; that hundreds of millions of eggs were imported yearly; and that, in spite of the terrible war which had been raging on the Continent, twenty-two millions of eggs arrived in this country from France during November in last year, it must surely be admitted that for some time past we had too much neglected our farm-yard poultry, which, in these days, formed such an important market commodity as food for the people, but which at present might be described as a quantity of fowls of all sorts and sizes, mostly the result of breeding in-and-in for years past, the owner continually grumbling because they cost so much to keep. The feeding generally was left to a personage known as the boy who fed the fowls and hunted up the eggs, and most liberally threw down handful after handful of grain with more zeal than discretion; while in the winter months, when eggs are scarce, and might be a source of profit, few, if any, were to be found. To make poultry profitable they must first of all begin with a breed which would ensure them success. Having been a most successful exhibitor and breeder for nearly twenty years, and having kept almost every variety of the feathered tribe, he would suggest that they should either send to market and so dispose of every fowl in their yards, and then commence with an entirely fresh strain, or that they should keep about a dozen of the best and biggest of the pullets, purchase another "bold chanticler," and thus introduce fresh blood amongst them. As regarded starting with an entirely fresh strain, which he strongly recommended, he thought it would answer their purpose best to keep Dark Brahmas—say a two-year-old cock and six pullets, by way of a start. The Dark Brahmas were very hardy, extremely prolific, and good mothers. If hatched in April, they would lay during the winter, and, with a liberal supply of food, the chickens attained size and flesh very fast, could soon be got ready for the market, and were by no means coarse for the table. In addition to this they were handsome and an ornament to the farmyard. The eye was naturally pleased by seeing a true and pure strain of fowls foraging about, and in these days of poultry exhibitions good birds (especially of this breed) commanded high prices, and they would be found very remunerative. He commenced keeping Brahmas some four years ago, and the first time he exhibited them was at Middleton, near Manchester, where with a cockerel, seven months old, he won the first prize; and the bird was sold at the catalogue price, £5. In this breed he had been most fortunate, and he had sold most of his birds at the rate of 50s. a cockerel and two pullets, the others being used for household purposes. The pullets he saved each year for winter laying were invaluable. As a rule, he preferred purchasing birds rather than eggs for hatching;

and now that poultry shows are so numerous, Brahmas might always be met with at fair prices. In thus strongly recommending Brahmas as best suited for farm yards, he did not wish to speak disparagingly of the many other useful varieties of fowls which we have, such as Dorkings, Cochins, Spanish, Game, and Hamburgs. But, were he a farmer, and wanted a really useful and remunerative breed, for hardiness, fast growing, and sure and certain winter-layers, he would keep Brahmas—Brahmas and nothing but Brahmas. Another suggestion which he would offer was that of keeping some of the best and biggest pullets, and turning down with them a fresh cock. Here he would recommend either Dorking or Brahma as being most suited. If we looked into our markets we did not find the dead poultry offered there for sale much larger than it used to be, with the exception of turkeys, geese, and ducks, in which a vast improvement was to be noticed. And here, again, the result of having only first-rate strains to breed from soon showed itself. A good strain would cost no more to keep than a bad one. To show how much ducks have, of late years, improved in weight, he might state that at the last Birmingham Show the first prize Aylesburys weighed over 18lbs. the couple. Seventy-two pens of Rouen ducks competed there, and the first prize couple weighed 19lbs. 4oz. Geese weighed 58lbs. and 56lbs. the couple, and goslings of last year 49lbs. The first prize adult turkey cock, which came across the Atlantic to compete, weighed 36lbs. 4oz. This bird was now the property of Mr. Frederick Lythall, and won the silver cup at Bristol during last month. Both the prizes for turkey cocks of 1870 went also, at Birmingham, to the same gentleman, with birds weighing 24lbs. and 23lbs. each. The old prize hens weighed 35lbs. and 34lbs.; the young ones 31lbs. and 29lbs. If they bred from such strains as these they might go and do likewise. But, whatever their breeds of poultry, they must be careful to infuse fresh blood into them every spring. As regarded management, the most important point was to have a properly-constructed, well-ventilated, poultry-house, with plenty of light, and free from draught. By all means have this before entering upon a fresh breed of fowls, as on their arrival they can be shut in for a few days in their new abode, and thus learn to return to it for the purpose of laying and roosting. Have the door well secured by two flat iron bars to go across it, fastened with staples screwed into the post at one end, and by patent padlocks at the other. There should also be a sliding panel in the bottom of the door for the fowls to go in and out during the day, and the lower iron bar should go across this panel when shut down for the night. The walls of the house should be lime-washed at least three times in the year. The perches should not be more than three feet from the ground, and ought to be, at least, three inches wide; a larch pole, split in halves, answered the purpose admirably. These perches should be placed all round the house, about three feet distant from the wall, not one above the other, and care should be taken that there are no beams or rafters that they can fly up to in the roof, as in their descent they alight

on the ground with great force, which is the cause of so many chicks being bumble-footed and gouty. Round the walls, on the ground, at convenient distances, place three bricks, to form a square nest for laying and sitting; in these place some hay and a china egg. He preferred this plan to boxes, because they are easier to keep clean, and the other fowls cannot roost upon them to disturb the sitting hens. The centre of the house being an open space, there is room to have the droppings properly raked out from under the perches once or twice a week, and fresh earth or coarse sand thrown all over the floor, and well raked over. The value of these droppings as manure could not be too highly estimated. The cleaner the fowl-house was kept the healthier would be the stock. Let the floor be well littered with straw and occasionally shook over, or changed. In winter time, eight o'clock is almost early enough for fowls to be let out of their house, but before so doing it is a good plan to give them a liberal supply of soft food (warm, if possible), as it will teach them to become attached to their abode, and the sitting hens will reap the benefit of a regular meal. By soft food he meant potatoes, boiled the night before, and mashed up when warm with Indian or barley meal. Corn should be given in the middle of the day, and again before going to roost, in the vicinity of the fowl-house. Cabbages should also be specially grown, to be given them daily during the winter months. In summer time they can in a measure cater for themselves. The sitting hens would also be much benefited by having a cast-iron trough (costing about 3s.) placed on two iron brackets, fixed in the wall of the house about a foot from the ground, to contain water, which ought to be changed every morning. As regarded the rearing of chickens, he would only say when under the coop they should receive a liberal supply, little and often, of different kinds of food, but above all particular care must be taken that the water given them to drink was clear, and often changed. In drawing his remarks to a close—though he could assure them that poultry may be made a profitable adjunct to the stock of the agriculturist, and a source of great pleasure and amusement to the amateur, and that with proper care, judgment, and attention it will be exceedingly remunerative—yet he trusted that they might in the course of time be allowed another discussion on the subject, and learn much by listening to the experience of some members of the Club, who might take heed to his suggestions, which, out of pure love for things appertaining unto poultry, had been humbly offered.

Mr. Councillor LOWE said they were obliged to Mr. Brooke for preparing the paper, but it occurred to him that the rev. gentleman looked upon the question more from the stand-point of an amateur than that of a farmer. If the farmers could breed poultry and sell them for general consumption at the rate of 50s. for a cockerel and two pullets, surely that would not be a very bad trade. The subject required looking at from a farmer's stand-point, which was the price at which poultry could be produced and sold for the pot. No doubt farmers, generally speaking, had very much neglected their poultry, which was attributable to one or two causes. Some half-century or a century ago farms were on a much smaller scale, and the farmers themselves, and their wives in particular, were more anxious and more disposed to look after useful adjuncts; but latterly the fashion had been for very much larger occupations, and the attention of farmers had naturally been drawn to what they considered of more importance—their stock. As to varieties of poultry, his experience went back to the days when a decent black-breasted red was thought to be a very useful bird. The sort was very hardy and of good constitution, and he had heard it said that next to a pheasant on your table a good well-fed and well roasted couple of game chickens made by no means a bad dish. He wished the question to be considered in the widest sense.

Mr. WISE said he was a large fowl-keeper whilst residing in Ireland, and from a diary which he kept he found that he always got more eggs in the month of February than at any other time. The next best month was July. He always gave his poultry plenty of hot food, such as potatoes, Indian meal, and light oats, and fed them regularly and well; and he could only say he found them the most profitable of anything he had at the time. He kept about thirty laying hens, and generally got from sixteen to eighteen eggs per day; but he was sorry to say he never got above 5d. a dozen for them.

Mr. BROOKE, in reference to what had fallen from Mr. Lowe, said he had tested the Brahmas severely. He did not

say that by getting a good strain into their yards they would be able to send a cock and pullet to market and make 50s. of them; but he did say that if they got a good strain and introduced fresh blood every spring they would have no difficulty in getting large prices for them.

Mr. LORT said he had kept Malays on some of the poorest land in England, where he found he could keep no other sort except game. They were always in good condition, and laid fairly. He did not see why they should not be recommended to farmers. He could not keep Cochins, Dorkings, or Spanish on several of his farms, where he could keep Malays.

Mr. MASEN said he agreed with Mr. Brooke's remarks concerning the Dark Brahmas, looking at them not from an amateur's but a farmer's point of view. They were a very profitable breed. There had then been a continuous frost for forty-four days, during which he had had fresh eggs every day from the Brahmas—the first instance of the kind he could remember. Speaking at one of the dinners connected with the Wolverhampton Poultry Show, Mr. Hewitt said that nothing would enhance the value of their poultry like introducing a good male bird of any particular kind among them. Up to that time he had generally selected for keeping some of the best birds from his own or his neighbours' stocks; but after hearing Mr. Hewitt he gave a guinea or two for any bird which took his fancy at a poultry show, and he never had cause to regret it. In reference to Mr. Lowe's remarks upon the present generation of farmers' wives looking with contempt on the poultry-yard, he was happy to say they did not apply to Pendeford, where a debtor and creditor account was carefully kept. Not only farmers' wives, but the wives also of many of the nobility and members of Parliament, paid great personal attention to the poultry. He proposed a vote of thanks to Mr. Brooke for his paper.

Mr. WRIGHT, in seconding the motion, said that during nearly the whole of his life he had taken a great interest in poultry; he had observed the various kinds, and bred them to a very considerable extent; and the first point which occurred to his mind was that it was impossible to lay down any strict rule as to the breed which should be recommended to be universally kept. Difference in climate, soil, and convenience had to be considered. Some poultry required great ranges, while others did well in confined spaces. Such varieties as Game or Hamburgs, would be worthless if kept in a confined space. With regard to keeping poultry generally, one of the great difficulties was that two runs or yards were requisite—one for the old and the other for the young birds. Without such accommodation it was almost impossible to keep them profitably or satisfactorily. Many of their agricultural friends had out-barns, where the chickens could be sent when old enough to leave the hen, where they could be fed at little cost, and thrived admirably. Where they had not two walks it was well for friends to join—the one to keep the old breeding stock and the other the young birds. With regard to which was the best variety of fowls for farmers' use, in anything like a favourable situation, the Dorkings were to be recommended. In the number of eggs they laid they were not equal to either the Hamburgs or the Brahmas; but for the table there was not a breed to equal them. They were very fair foragers, getting their own living as far as possible, and very well repaid the food they eat. They came to market great weights at a tolerably early age—a couple of pullet, for instance, weighing from 10lbs. to 11lbs. at eight months old. In damp localities Dorkings would not do, as they were in such situations liable to roup; the latter tendency arising generally not so much from the nature of the fowl, and their liability to that disease, as from want of care on the part of persons who keep them. If Dorkings were not so much crowded together, they would be very much less affected by roup. With regard to roosts and the care of poultry, he had been very fortunate in hatching a considerable number of chickens every year. He had only a small roosting place, and till he could kill them off they were very crowded. Notwithstanding that, however, he had rarely any disease among them; and when disease did appear it was always introduced by fresh birds from another district. What he did was to have the roosting places swept out every morning, and the floor sprinkled with sawdust and MacDougall's disinfecting power; and he recommended every poultry—and he might say stock-keeper to use the latter, as a preventive of disease. As to feeding, a variety of food was to some extent necessary; and he thought that some errors

were committed in regard to feeding. For his own part he never used Indian corn, as it made the poultry fat and gross, and the eggs had not the right flavour. The food he had used for a long time had been a small but good sample of English wheat, and barley; the latter, when steeped, being an excellent thing for bringing fowls into high condition. He soaked the grain one day, putting it afterwards into an iron dish in the oven or near the fire until it was sprouted a little. With regard to large kinds of poultry, which wanted plenty of bone-forming material, bran, sharps, and meal were very useful; but the best thing he had found for his young Dorkings, in addition to other food, was a good sample of small white peas, which were not expensive keep. In regard to other varieties of fowls, for an amateur who wanted beautiful objects about his place, there was nothing superior to the Silver-spangled Hamburgs. They were constant layers and non-sitters; while, for the table, he was quite certain that no poultry could surpass a couple of young cockerels of this variety, hatched in April, and killed about November or December, weighing about 10lbs. or 11lbs. The Pencilled were very beautiful, but more delicate; but one of the most useful of all fowls, especially to the inhabitants of our towns or villages, was the old-fashioned Copper Moss, Moores, Golden Pheasants, or "red caps" as they were called in some localities, which, he was sorry to say, had been deteriorating for a number of years. If a large supply of eggs, of good size, was wanted, no variety was better. If some of their friends could induce the Cochins to abandon their propensity to sit, they would be doing good service. He had had them sitting for months on a heap of stones. They were not, as a rule, very good for the table. A young Cochin cockerel, about five or six months old, would have consumed a wonderful quantity of food, but after that age they were not good, and the pullets were never so. Brahmas might find favour as an

amateur's fowl. They were handsome, and laid well; but they were not table fowl, he should say. Malays were a valuable variety, and he was surprised they had not received more attention. They were not handsome in appearance, but as a table fowl most excellent. He thought crosses of all kinds in poultry were decided mistakes. They had been told that the best of all crosses was that between the Brahmas and the Dorking. For two years he took the opportunity of testing this point fully with some of the best strains, and when the birds were killed they were not so heavy by three or four pounds the couple as some pure Dorkings which were hatched at the same time. The crosses had broad, deceptive, flat backs, but no breasts. He thought this was the case with regard to all crosses. Unless there were plenty of rain in the spring, and the worms appeared, poultry never thrived so well; and the last three seasons had been against them in that respect. A great mistake was made in the manner of killing poultry. Much of the poultry which came to town was killed, plucked, and sent to market at once. They should be fasted nearly a day before killing, and hung a week or a fortnight, according to the state of the weather, when the meat would be much better and much more nutritious.

After a few remarks from Mr. Jones, Mr. Horley, and the Chairman,

Mr. BROOKE said, in answer to Mr. Lort's question, that the reason he did not recommend Malays to farmers was that they were very long in the leg, and unsightly; the market people not caring about buying them. They were also very pugnacious, and it was sometimes hard work to keep the peace among them. They were also very bad layers, never laying more than a dozen eggs before wanting to sit. In conclusion, he again urged the value of the Brahmas, and hoped that ere long they would have another discussion upon the same subject.

SUGAR-BEET GROWING.

[We have been favoured with the following letter by the writer, Mr. W. Biddell, one of the largest growers of sugar-beet in England.]

Lavenham Hall, Suffolk, Jan. 28, 1871.

DEAR SIR,—Agreeably with your request, I now send you my views upon this subject. We (the farmers in this locality) have now grown sugar-beet for three years, neither of which can be said to have been favourable for the growth of roots. In 1868, the season being much too dry throughout, my crop only averaged about 9 tons per acre. In 1869, we obtained good plants, and all promised well up to June, when the severe drought blighted our prospects; my crop averaged between 12 and 13 tons per acre. In the past year (1870), a good plant was but rarely met with, and, when obtained, the dry weather prevented a good crop being secured; nevertheless mine came up to the scale better than I anticipated, weighing 11½ tons, and that in spite of having little more than two-thirds of a plant, and having sown several acres of an inferior small kind of root. Some of the crops of my more fortunate, or more skilful, neighbours averaged I believe 13 tons per acre.

Contrary to the nearly unanimous predictions of the scientific men whom Mr. Duncan consulted before erecting his factory, it is now conclusively proved that our growth is quite equal in quality to the sugar-beet grown on the Continent—indeed, it is reported that he has succeeded in producing sugar better than any obtainable elsewhere from sugar-beet. As to the effects of a sugar factory in a locality, there can hardly be two opinions on this point. Every acre I grow costs me in labour £1 in addition to what I should have expended had I continued to grow the crops displaced by sugar-beet—indeed, I am convinced the 60 acres I grew this year caused me to increase my annual expenditure for labour some bit more than

£60. Mr. Duncan, at his factory, does not I am sure get off with so little cost for labour as £1 per acre. Taking it at this sum, and estimating last year's growth here at 500 acres, we have an additional outlay of £1,000 in the labour market, which cannot fail to enliven it, while the heavy expenditure for skilled labour at the factory must do local good. The great drawback is that the demand suddenly ceases at the very flattest season of the year for labour—that is in January.

Secondly, as to the farmer's view of the question. It is decidedly a very expensive crop, as may be concluded from the following estimate of cost per net acre:

Common charges—Rent 33s., tithe 7s. 6d.,	s.	d.
rates 3s. 6d., interest on capital 10s. ...	54	0
Horse-tillage and drilling ...	45	0
Hand-hoeing and singling 12s. 6d., seed		
(9lbs.) 4s. 6d. ...	17	0
Taking up and stopping ...	11	0
Filling and cartage (say two miles) 2s. per		
ton on 15 tons ...	30	0
Manure (10 loads) 45s., phosphate (3 cwt.		
at 5s. 6d.) 16s. 6d., guano (1 cwt.) 14s.,		
labour to manure 2s. 6d. ...	78	0

We have then as cost the sum of £11 15s. per acre. Upon the receipt side we have the tops worth say 7s., and the 15 tons of beet, for which £15 is paid, making total receipt £15 7s., leaving apparent profit of £3 12s. It may be thought that I have formed a low estimate of the yield of sugar-beet. I have met with estimates of 30 up to 40 tons per acre, but on investigation it will be found such and similar estimates have been made by parties who have never grown them. My object in this letter is to give you what I might call my unbiassed experience and opinions. It should be borne in mind that sugar-beet are topped much closer than others, and that

the thorough washing they undergo seriously diminish their weight as compared with roots weighed in the common manner.

COMPARATIVE PROFITS.—If we compare results with that of such crops as beans and peas, and other roots as I advise, sugar-beet superseding in part, the result will work out favourable for the latter. Let us take beans and peas; these cost as under:—Common charges as before, 54s.; horse tillage, drilling, &c., 25s.; seed three bushels, 15s.; manure ten loads, 45s.; harvesting, carting, and thatching, 18s.; hand-hoeing and cleaning, 10s.; thrashing and dressing 6s.—total cost £8 18s. The receipts will be: Straw, &c., worth 45s., and say thirty-two* bushels of corn worth £8—total £10 5s., leaving apparent profit of 36s. In connection with profit I have used the word apparent, for the real profit cannot be ascertained without the state in which the land is left be taken into consideration. I have grown sugar-beet side-by-side with beans, and have not at present noticed any appreciable difference in the after-crops. Mangel and swedes cost about £10 per acre to grow. Reckoning the indirect advantage of feeding them upon the farm, he is a first-rate grazier who makes £10 of them, leaving the direct profit *nil*. Where mangel can be sold off the farm at 16s. or 17s. per ton, I have no hesitation in saying the growing of them is more profitable than sugar-beet growing. Excepting where the farmer has easy access to London or other large towns, he will find the demand for roots very limited and uncertain.

Artificial grasses when fed seldom pay their cost, viz., 54s. common charges, and 10s. for seed and sowing, but as a preparation for corn are doubtless 55s. per acre

better than sugar-beet, even so we have 27s. left as the greater profit on sugar-beet growing. To supersede white straw crops by sugar-beet would, I think, be a mistake; for assuming the fertility of the farm to be maintained by grazing, to diminish the quantity of straw grown would be a great inconvenience.

The conclusion to which I have arrived is, that where a farmer is situate within two miles of a sugar-beet factory it will answer his purpose to grow from one-eighth to one-fourth of his arable land in sugar-beet if he can there obtain £1 per ton for them, and have the pulp back at 12s. per ton (which will amount to about one-sixth of the weight of beet-root), and which if fed liberally with corn and cake will in a great measure replace the waste caused by selling so much produce from the farm.

Though not so sanguine of the yield and profits of sugar-beet growing as many others, I have a strong conviction that such of us as may be allowed to peep into the next century will see beet-sugar works numerously dotted about the country. I fail to see wherein we are more unfavourably situate than our neighbours on the Continent, yet there we find the growth of beetroot-sugar is an industry which has increased largely of late years. Such would not have been the case were it not a financial success.

Apologising for this very long letter, I remain yours truly,

WM. BIDDLE.

T. W. Blyth, Esq., Aldington, Evesham.

P.S. Let me suggest as a trial that some dozen of the farmers in your locality grow one acre each, if so have 160 to 180 plants upon a rod, and well manure for them.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, Wednesday, February 1, 1871.—Present: Lord Vernon, President, in the chair; Viscount Bridport, Lord Kesteven, Lord Tredegar, Sir Watkin W. Wynn, Bart., M.P.; Mr. Barnett, Mr. Booth, Mr. Bowley, Mr. Cantrell, Colonel Challoner, Mr. Davies, Mr. Dent, M.P.; Mr. Brandreth Gibbs, Mr. Hornsby, Colonel Kingscote, M.P.; Mr. Leeds, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Shuttleworth, Mr. Torr, Mr. Whitehead, Colonel Wilson, Mr. Jacob Wilson, and Dr. Voelcker.

The following members were elected:

Averill, George Hanson, Wood End, Lichfield.
Blackwell, G., jun., Hazlecoats, Kingscote, Wootton-under-Edge.
Booth, Nathan, jun., Woodhouse, North Dalph, Downham.
Brown, Henry, Preston, Wellington, Salop.
Culshaw, Joseph, Towneley, Burnley.
Cunliffe, Major Ellis, J.P., Queen-street, Lytham.
Dowse, W. T., Chelsfield Hall Farm, Orpington.
Drew, Edward, Calcot Farm, Kingscote, Wootton-under-Edge.
Duncan, James, Benmore, N.B.
Evans, Warren, Llandowlais, Uak.
Evans, William, The Fields, Newport, Monmouthshire.
Gaitskill, Jacob, Hall Santon, Holmbrook, Carnforth.
Godwin, J. S. S., Court Lodge, West Peckham, Maidstone.
Hancox, E. O., Evesham.
Harrison, John, Warmingham, Sandbach.
Harrison, William, Samlesbury Hall, Preston.
Hawkins, Rev. Canon S., Woolas Vicarage, Newport, Monmouthshire.

Henson, William, Burton Fields, Hinckley.
Hibbert, Henry, Broughton Grove, Grange.
Holborow, D. Charles, Bagpath Court, Wootton-under-Edge.
Horton, S. Lewis, Park House, Shifnal.
James, John, Laus-our, Caerleon.
Keeling, G. B., Hampton House, Penkridge.
Lintott, James, jun., Kimbolton.
Little, William, Littleport, Ely, Cambs.
Lockwood, A. C., Chester.
Lowe, Thomas, The Old Pall, Eddisbury, Northwich.
Morris, Thomas, Henfaes, Welshpool.
Morton, J. T., Darenth, Dartford.
Moseley, Captain W. H., Leaton Hall, Stourbridge.
Neville, John, Haselour Hall, Tamworth.
Nunnerley, John, Buerton Hall, Nantwich.
Phillips, Guy Taylor, Brockton Leasowes, Newport, Salop.
Phillips, Thomas, 5, Princess Square, Plymouth.
Pratt, C. A., Shenton, Nuneaton.
Rider, T., Edgeboulton, Shawbury, Salop.
Rider, W., Crudgington, Wellington, Salop.
Shakespeare, John, Copstan Magna, Hinckley.
Shepherd, W., Eaton, Chester.
Siddorn, Henry Rushton, Tarporley.
Silcock, Richard, Thornton Hall, Poulton le Fylde.
Smith, Ralph, Lenchwick, Evesham.
Spurr, George, Boston.
Taylor, Harry, Elmbridge Green, Droitwich.
Torr, John, Carlett Park, Eastham, Chester.
Tyler, Captain George Griffin, The Callow Hill, Monmouth.
Tyser, G. Dorman, Hollenden Park, Tonbridge.
Wale, Henry, Woodlands, Harborough.
Webb, E., jun., Wordsley, Stourbridge.
Wilkes, Sam., Pony Norton, Shifnal.
Wilkinson, J. Rennie, Great Addington, Thrapston.
Wood, James, Oaklands, Breeze Hill, Walton, Liverpool.
Wright, James, Cophouse Farm, Saltney, Flint.
Wrottesley, Lord, Wrottesley, Wolverhampton.

* First-class land will average more, as it would more than 15 tons of sugar-beet.

FINANCES.—Viscount Bridport presented the report, from which it appeared that the Secretary's receipts during the past two months had been examined by the committee, and by Messrs. Quilter, Ball & Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on January 31 was £2,070 6s. 4d. The committee reported that £2,000 had been received from Wolverhampton and placed on deposit. The balance-sheet for the quarter ended December 31, 1870, and the statement of subscriptions and arrears, were laid upon the table; the amount of arrears then due being £894. The committee recommended that 12 members in arrear of their subscription be taken off the books. One hundred and twenty members have given notice during the past year of their withdrawal from the Society. The committee recommend that the Secretary apply for a summons in the county-court against Richard S. Cook, Thurlaston, Rugby, for the arrears of his subscription. The committee have to report to the Council that they have instructed Mr. J. Henry Johnson, solicitor, of 47, Lincoln's Inn Fields, to represent the case of the Society in the action taken by Messrs. Bradburn & Co. against the Society, and that he has accepted service of the summons on behalf of the Society.—This report was adopted.

JOURNAL.—Mr. J. D. Dent, M.P., reported that the Editor had conferred with the principal land-agents and tenant-farmers of Shropshire and Staffordshire, at a meeting held at Wolverhampton; and that the committee, after considering the opinions expressed at that meeting, had resolved to recommend the following conditions of the farm-prize competitions of 1871:

1. That the size of competing arable farms be not less than 200 acres.
2. That the dairy farms be those on which not less than 20 cows are kept, and which are chiefly devoted to dairy purposes, including the sale of milk either to towns or cheese factories.
3. That the entrance fee be £2 for members, and £3 for non-members of the Society.
4. That every competitor must enter all the land in his occupation within the competing area.
5. That the last day of entry be March 25.
6. That a tenant-farmer, in order to be eligible to compete for the prizes offered, must pay a *bond fide* rent for at least three-fourths of the land he occupies.

It was also reported that the subscribers to the farm prizes had placed an additional sum of £50 at the disposal of the Society, to be awarded by the judges for any special feature of excellence in management in any of the competing farms; that the attention of the judges of dairy farms be specially directed to cleanliness in the dairy, and the good management of dairy produce; and that the judges be instructed to withhold any of the prizes in case of want of sufficient merit in the competing farms.—This report was adopted.

GENERAL, WOLVERHAMPTON.—Lord Kesteven presented the report of the committee, in which it was recommended that the list of local prizes presented be adopted by the Council, and inserted in the prize-sheet; also that the printing of the prize-sheet be delayed for one week, to enable the names of donors of special prizes to be inserted. It was further recommended that members of the Staffordshire Agricultural Society, not being members of the Royal Agricultural Society, should be allowed to compete for the prizes offered for dairy cattle, wool, butter, and cheese, by paying the same entrance fee as that paid by members of the Royal Agricultural Society, the fees to be the same as heretofore.—This report was adopted, after the expulsion, by 12 votes against 5, of a paragraph stipulating that carriage-horses should be exhibited in harness.

SELECTION.—Mr. J. D. Dent, M.P., presented the report of the committee, the paragraphs of which were considered *seriatim*. 1. The recommendation that Mr. R. H. Masfen, of Pendeford, Wolverhampton, be a member of Council, in the room of Mr. Hassall resigned, was moved for adoption by Mr. Dent, M.P., seconded by Mr. Randell, and carried unanimously. 2. In reference to the paragraph that "The committee, having considered in what manner the Council can best recognize the long services of Mr. Amos as Consulting Engineer to the Society; and having reason to believe that Mr. Amos would be gratified by continuing his connection with the Society, and by still assisting the Council with his advice, recommended that he be appointed Honorary Consulting Engineer to the Society."—Mr. Ransome referred to the great services which Mr. Amos had rendered to the Society, and to the progress of agricultural engineering during the last twenty years, and suggested that Mr. Amos should be made an honorary member of the Society, and should receive the thanks of the Council engrossed on vellum, and accompanied by the Society's gold medal. Mr. Shuttleworth having seconded the proposition, a conversation ensued, in which it was stated that by making Mr. Amos an honorary member of the Society he would be practically deprived of his seat on the Council. Ultimately, on the motion of Mr. J. Dent, M.P., seconded by Colonel Challoner, the recommendation of the committee was adopted, with the addition of the latter part of Mr. Ransome's suggestion. 3. The recommendation that Mr. Jublin-Dannfelt, superintendent of the Experimental Farm and Agricultural College at Stockholm, be elected an honorary member of the Society, was adopted unanimously.

SHOWYARD CONTRACTS.—Mr. Randell (chairman) having presented the report of this committee, it was referred back to them for further consideration.

COUNTRY MEETING REQUIREMENTS.—Mr. Jacob Wilson reported that the committee moved for by Lord Lichfield recommended the postponement of the consideration of the general question of making a change in the present mode of inviting competition, but suggested certain alterations in the questions forwarded to the towns selected to compete this year.—This report was adopted, and the alterations in the questions were agreed to.

The death of Lord Walsingham, a Vice-President of the Society, was reported, and the President expressed the deep regret felt by himself and the members of the Council at the loss of their valued colleague. The vacancy in the office of Consulting Engineer was referred to the Implement Committee for consideration and report.

On the motion of Mr. Jacob Wilson, seconded by Mr. D. R. Davies, on behalf of Sir W. W. Wynn, Mr. R. Milward was elected a Steward of Live Stock.

The Secretary was instructed to send letters stating the requirements of the Society for the country meeting in 1872 to the mayors of Cardiff, Newport, and Hereford, and to the High Bailiff of Cheltenham.

It was resolved to grant applications for the loan of the Society's plough dynamometer, from the Bramham Moor and Knutsford Agricultural Societies.

A letter was read from Messrs. Carter and Co., requesting trial of a blue-flowered Clover, and the Secretary was instructed to inform them that Lord Tredegar and Mr. Randell were willing to try the plant in their individual capacities.

THE FRENCH PEASANT FARMERS' SEED FUND.

A deputation from the committee of this fund was received at the Mansion House on Friday, Feb. 17, for the purpose of conferring with the Mansion House Relief Fund in reference to the possible distribution by the latter of seed-corn and other means of relief to the peasant farmers of France who have been ruined by the war. The deputation consisted of Lord Vernon, chairman, Lieut.-Col. Loyd Lindsay, V.C., M.P.; Messrs. James Caird, C.B., James Odams, Phillip Pavy, and H. M. Jenkins, hon. secretary.

Lord VERNON stated that the committee of the fund over which he presides had hitherto felt that the attention of the Mansion House Relief Fund was rightly absorbed in their endeavour to mitigate the distress in Paris; but that now, in the belief that they had to a great extent met this urgent call upon their benevolence, it was felt by his committee that it was not beyond their duty to bring strongly before them the urgent wants of the distressed peasantry in the rural districts. He then explained the precise objects of the French Peasant Farmers' Seed Fund, and the steps which had been taken with a view of carrying them out, and especially referred to the assistance which had been freely and generously given to the National Society for Aid to the Sick and Wounded in War, by the War Victims' Fund, by the press, and by the general public. Lord Vernon proceeded to give a sketch of the vast extent of the ruin which had overtaken the French peasant farmers, and showed that the Department of the Somme alone required free gifts of seed to the value of over £50,000, and that even this sum would not provide seed sufficient to sow more than one-tenth of the land which required it to be furnished by some means, in that Department alone, in order to produce a crop next autumn. Considering that there are 23 Departments of France, more or less, in the same condition, he admitted that at first sight it seemed a hopeless task to grapple with distress of these gigantic proportions; but he urged, on the other hand, that what was attempted by his committee was only to provide for immediate wants until such time as other means of relief, whether springing from commercial enterprise, local benevolence, or Government aid, could come to the assistance of the peasant farmer; and in this respect he considered the policy of his committee to be identical with that of the Mansion House Relief Fund in their mode of dealing with the starving population of Paris. After referring to the operations which had already been commenced by the French Peasant Farmers' Seed Fund, Lord Vernon stated that he had that morning received a letter from the Foreign Office in which it was stated that Mr. Odo Russell had ascertained at Versailles that every possible facility for the operations of the fund would be given by the German Government, but that the proposal to steep the grain in a poisonous solution (which, however, had not come from his committee, but in fact had been rejected by them) was considered quite inadmissible by the German Government. He then expressed the anxiety of his committee to ascertain whether the Mansion House Relief Fund Committee would devote any portion of the large sum of money at their command to the purpose of supplying seeds to the ruined peasant farmers. If they decided to do so, his committee would be glad to give them every information in their possession as to the wants of any district in which they might desire to work; or, if it were preferred, his committee would place their organization at the disposal of the Lord Mayor's Fund for the distribution of seed to any amount which might be granted for that purpose; but if the latter course were adopted, he considered that it would be more agreeable to him and his colleagues if a certain number of the committee of the Mansion House Relief Fund were nominated to co-operate with them in the distribution of such a grant. Lord Vernon stated, in conclusion, that he felt less delicacy in mooted these questions than under other circumstances, in consequence of the efforts which had been made by the French Peasant Farmers' Seed Fund to avoid any course of action which might seem to put them in competition with the Mansion House Relief Fund, and that they had thus very considerably restricted the area of their collection.

Mr. CAIRD, C.B., supplemented Lord Vernon's statement by some details in reference to the operations of the French

Peasant Farmers' Seed Fund in the Department of the Somme, and showed the great advantages under which the Committee had commenced the distribution of seed. Not only had they the advantage of the experienced aid of Sir Vincent Eyre, in charge of the dépôt of the National Society at Boulogne, but they had also the material assistance of General Von Goeben, the commander of the German armies in the north-west of France, who had issued an order to the officers under his command, which protected the seed sent by the fund from requisition by the German troops.

The LORD MAYOR said that both committees were working for the same end, but that the Mansion House Relief Fund had an immediately pressing and urgent duty to discharge, and they did not possess the overflowing exchequer which Lord Vernon supposed. They would, however, take the seed question into consideration in connexion with a resolution which had just been passed at the instance of Archbishop Manning, and see to what extent they could help in the effort being made by Lord Vernon's fund, with which they greatly sympathized.

Mr. CANDY expressed his heart-felt sympathy for France in this time of trouble and distress; but he urged that the time had not yet come when the Mansion House Relief Fund could afford to slacken their efforts for the relief of the starving people in Paris. They had not yet begun to realize the appalling nature of the distress in France; and while they had as yet collected not quite £100,000 he had from the first assured the Committee that several hundred thousands would be required before they could supply even the most urgent and pressing wants. He felt that Lord Vernon's committee were doing a good work; he heartily sympathized with them, and in proof of his sympathy he begged to hand his lordship a subscription of £50, and he only regretted that he could not yet recommend the committee of the Mansion House Relief Fund to turn their attention in the same direction.

Mr. H. M. JENKINS, in reply to a question as to the action of the East Kent Chamber of Agriculture, stated that, although that body had been very active in support of the movement, and had made a good collection of donations in money and in kind, they had unfortunately appended to their resolution in aid of the fund a clause which prohibited their subscriptions from being used until the close of the war. He feared that at the present time it could not be urged upon that Chamber that the war had been brought to a close; therefore those donations were not yet available. In reference to the inquiries which had been made as to the amount of the subscriptions to the French Peasant Farmers' Seed Fund, he stated that nearly £6,000 had been received, of which about £4,000 had been expended in purchases of seed-corn. The subscriptions which had been promised, but not paid, the value of donations of grain which had been received, and the amount of subscriptions in the hands of local secretaries, he estimated at an amount of probably £4,000, making altogether a total of £10,000 which had been subscribed.

Mr. CANDY made a comparison of this sum to that raised by the Mansion House Relief Fund, and stated that while the former would, like a grain of mustard-seed, multiply a hundred-fold, the latter was not sufficient to meet present distress, and would yield nothing hereafter.

Mr. CAIRD, C.B., replied that this apparent objection to assistance from the Lord Mayor's committee was in reality a forcible argument in favour of the seed fund, and stated that however great a yield it might produce, £10,000 was only sufficient to sow 15,000 acres, whereas in the Department of the Somme alone free gifts of seed were required for no less than 60,000 acres of land. He also reminded the committee that if they could not give them aid in supplying seed-wheat they might still find themselves in time to assist in sending oats and barley.

Mr. KIRKMAN D. HODGSON, M.P., urged that, however true it might be that there was time to spare in reference to oats and barley and other seeds, it must not be forgotten that seed wheat was one of the very few means of providing food for the people next winter, and of averting a calamity more widespread than that which was now taxing their utmost energies.

After what had been stated by the Lord Mayor, and by Lord Vernon and his colleagues, he begged to express the hope that gentlemen present who were connected with the press would urge upon the subscribing public the duty of supporting the French Peasant Farmers' Seed Fund as a benevolent organization whose object was parallel in importance with their own. He also stated that he would send a subscription of £50 in aid of its funds.

Lieut.-Col. LOYD LINDSAY, V.C., M.P., expressed a fervent hope that the Committee of the Mansion House Relief Fund would soon find themselves in a position to help the peasant farmers of France through Lord Vernon's fund in the same prompt and effectual manner as they had already succoured the starving population of Paris.

Archbishop MANNING mentioned that the sub-committee which had been appointed immediately before the deputation was received had to inquire and report on the comparative wants of Paris and the districts ravaged by the war, with a view to determine whether the time had not come to send assistance to other parts of France; and that the question of supplying seed-corn to the peasant farmers would very properly be considered by that sub-committee.

Lord VERNON then thanked the Lord Mayor, and the members of his Committee for their courtesy, and the deputation retired.

The Great Western and the Great Eastern Railway Companies have offered to convey gratis over their lines,

en route to Mr. Odams' wharf, all donations in corn and seeds, bearing the official labels of the French Peasant-farmers' Seed Fund, which labels will be forwarded on application to the honorary secretaries. The South-Western, South-Eastern, and the London, Chatham, and Dover Railway Companies have undertaken to convey, carriage-free, specified quantities of grain and seeds to certain French ports; and the Great Eastern Railway Company has granted free transit to Antwerp *via* Harwich. A depôt has been formed at Boulogne, under the charge of General Sir Vincent Eyre, K.C.B., who has the charge of the Sick and Wounded Fund in the north-west of France. Through Sir Vincent Eyre the committee has been placed in direct communication with the President of the Society of Agriculture at Amiens, who has furnished details of the extent of land in that district requiring seed, and the kinds of seed immediately needed. The committee has resolved at once to make a beginning, and will forward immediately 1,200 bags of spring wheat for distribution. A second consignment has also been ordered. Mr. Sartoris, in conjunction with Sir Vincent Eyre, is making arrangements for personal examination of the districts and due verification of the claims of the peasant-farmers. The committee has determined that seed shall be given in comparatively small quantities; and of spring wheat about to be distributed, the maximum allowance has been fixed at eight bushels. An agent has been appointed to make the movement more generally known to the agriculturists of Great Britain, and he will forthwith commence his tour of the country.

CALENDAR OF AGRICULTURE.

This month is the general season of sowing grains and legumes for seed crops, and for feeding on the ground. So soon as the weather affords the proper condition of the land, sow vetches for green food and for being consumed on the ground of leys and stubbles, in a thick seeding of not less than four bushels an acre, with a portion of oats or barley; harrow the land very finely, with probably three double tines, done alternately in length and across, followed by a heavy rolling, before the young plants can sustain any damage. This operation excludes drought, and facilitates the work of the scythe. From the 20th to the 25th of the month, repeat the sowing in the same manner, in order to procure a succession of green food from that valuable plant.

Sow oats in dry weather on the winter furrow of ploughing, with five bushels of seed to an acre; three double tines of harrowing, done alternately in length and across, followed by a heavy rolling across the furrow of cloddy ground, before the braird of young plants can sustain any damage from the operation.

In the end of the month sow barley with one furrow of ploughing, two to three bushels of seed an acre, three single tines of harrowing, followed by a heavy rolling done across, to prepare for the reception of grass-seeds on lands of root-crops of last year.

Sow peas on winter-ploughed stubble-grounds with three or four bushels of seeds, sown by hand in broadcast, with three or four single tines of harrowing, followed by a heavy rolling, done across the ploughing. This last operation consolidates light lands and closes the rougher soils against drought.

Sow beans on the winter-ploughed strong lands in broadcast, with two to three bushels of seed to an acre, and harrowings as the land may require; or two bushels inserted by hand-dibble on the furrow slice, and covered by a light harrowing; or the same quantity of seed deposited by drill machinery with coulter to make ruts on the ground. The most loamy bean soils may be fallowed with two furrows of ploughing, and formed into ridges 27 inches apart to receive dung and the seed from a hand or a

drill machine; the drills are split over the dung and the seed, and receive the complete bean husbandry by horse and hand hoeing of the intervals. The narrow drills of 12 inches can receive only the hand-hoeing, which is useful in checking weeds; the 27-inch drills admit the green crop fallowing of the ground. All leguminous plants must be thickly placed on the land to smother weeds, retain moisture, and exclude drought.

Sow lucerne on good lands, deeply-wrought and manured in 12 to 20 lbs. of seed to the acre, lightly harrowed and heavily rolled. A top-dressing may be applied to the young plants, as of soot or a fine compost. This plant affords several cuttings of good green food in the young state; but the ligneous stems forbid any comparison with red clover as a fodder plant.

Sow flax on good lands of a turnip fallow; cover the seed lightly, and produce a fine surface of soil. Weeds, stones, and clods must be carefully removed.

Sow sanfoin at 1½ cwt. to an acre on wheat and barley tilths, and dress the ground of young plants with gypsum.

Sow parsnips and carrots on warm sandy loams of an earthy depth that are in high condition from an enriching culture, and without the present application of fresh dung, which increases the growth of leaves and fibres rather than of roots and bulbs. Sow in rows of one to two feet apart on the flat ground, to admit the hoeing by hand and of a narrow horse-hoe. The seeds may be steeped in saline liquids, as stale urine and dried with hot lime.

Apply artificial manures as top-dressings on the young grain crops—wheats, barleys, and clovers. Soot and salt, malt-coombs, rape-dust, nitrate of soda, pigeon's-dung, and gypsum; saline substances at 1 to 2 cwt. to an acre—all have been recommended, but the products of animal and vegetable bodies are ever to be preferred. Top-dressings produce straws and stems rather than grains and seeds.

Sow cabbage-seeds for summer plants on richly prepared borders, and finish the laying of composts on grass lands. Spread molehills. Catch the vermin by traps, placed

in the runs; bush-harrow the grass lands dressed with compost, and roll heavily, removing stones and all obstructions to the scythe by hand-picking. Shut up the fields by gates and fences, all in proper condition.

Plant hops on good lands on a dry and sound bottom that has been deeply ploughed or trenched, and richly prepared with dung well decomposed and incorporated in the ground. Place the hills at six feet distant in each direction, which best admits the scarifier; open the pits square and about a spade in depth; place a set of the plant in each corner, and cover lightly with earth, leaving the upper end of the plant just in light of day. The hills are slightly raised above the level of the ground. The hop is a member of the nettle tribe of plants, with a cluster of roots that are rampant in devouring food, and require a very large encouragement both in soil and manure.

The cutting of underwoods will now be discontinued, with the planting of forest trees and of young hedges, except in wet seasons and in damp situations. Watered meadows may now be grazed with animals. In wet weather thrash grains, and carry dung from the cattle-yards to the heaps in the fields.

The lands that are intended for early green crops, as potatoes, beet and swedes, should have a cross-ploughing in the end of the month, and may be done in weather too wet for sowing grain crops; and yet permit the action of the plough. The early stirring of land is very beneficial, but dry rather than wet.

In many, or rather in most situations, this month is the busiest season with the ewes dropping lambs. For this purpose it will be very convenient to have a field of permanent pasture closely adjoining the homestead, in

which the milch cows are grazed during summer, and the ewes lambed in the spring, provided with shelter sheds opened and closed in apartments for cattle and sheep in confinement. The ewes consuming turnips, beet, and cabbages, will enrich the surface, annually bush-harrowed and rolled, and sown occasionally, if necessary, with hardy-perennial seeds of grasses. One or two rubbing posts will be required with a clump of trees or any knoll of the surface ground, and trees planted in the corners of the field to round the sharp angles. A constant supply of fresh water must not be neglected. From this lambing ground, the strongest lambs are removed to the pasture-fields as the strength grows sufficient. The shelter of situation and of sheds is as necessary as food itself in the tender condition of bringing forth the young.

The latest fattening bullocks must now be sold, or pushed forward by superior feedings. The yards must be amply supplied with food, as the lengthening days induce animals to eat more.

Hogs for bacon will not be fattened beyond this month; all pigs must go on early for next winter's fattening.

Keep the poultry houses dry and warm, and set all kinds of eggs for hatching—feed well, and provide clear spring water. In this cold month of long days, the benefit of warmth from the floors of poultry-houses heated underneath by a pipe of warm water from the cooking-house, will quickly appear in warming the nests, fostering the young broods, and in rendering a comfortable condition to the grown animals. The most valuable of farm-poultry in the cock and hen are natives of a warm climate, and require much warmth and shelter.

CALENDAR OF GARDENING.

KITCHEN GARDEN.

This is the month of business, and every favourable moment must be seized, because the varied character of the weather is not only likely to perplex, but it frequently happens that drought sets in for the spring about the 21st, and then it will be too late to hope for the success of many of the lighter seeds. Begin, therefore, early to dig, manure, and sow plots for the main crops of peas, beans, and all the summer vegetables, remembering that carrots require a very sandy loam, without any interspersed manure—that beet and parsnips do well on the stronger land, but like the dung to be placed low in the ground.

The soil must be made very rich for cabbages and cauliflowers by deep digging and ample manuring, and for Brussels sprouts, brocolis, and kales. Dung laid in the bottom of the trenches directly underneath the plants of cauliflowers suits well for that rich feeding plant. Guano water is a most useful application to cabbage plants.

In the very first fine weather sow early white peas in single rows eighteen inches apart in a thick seeding, and plant by dibble early beans in rows. These vegetables demand the very earliest attention, and the lands dug in autumn after a crop of roots, should be slightly moved with the spade in the early spring to receive the seeds. No better preparation can be devised than incorporation of the straw and faecal dung, to produce the root crop, enriched by the exudation from the fleshy roots—crumbled by the atmospheric changes of winter, and enjoying the benefits of exposure to the warmth of returning suns of the season. All the culmiferous and creeping rooted plants of the spring should enjoy these advantages.

Transplant, and sow for summer-hearting cabbage. Sow a little Dutch red cabbage-seed, and green curled savoy for Michaelmas.

Sow the best lettuce seeds, and round spinach, and repeat the sowing every fortnight during the month; meanwhile the winter prickly spinach will continue to yield freely for some months, if the weather prove showery.

Sow early in the month the true Spanish onion for large bulbs, and the Strasbourg for more common kitchen use, on lands that are deep and rich from previous cultivation, or with present heavy manuring with fine dung, as a compost of night-soil and fine earth: the plant requires a rich encouragement.

Sow leeks to be transplanted.

Early radishes require a soil light, warm, and friable, rich with moisture, and warmth sufficient to push on the growth rapidly. For these reasons a frame and lights are always advantageous. A sprinkling of early turnips, a little calery for a succession, small salading, nasturtiums for pickle; parsley, basil, and pot herbs—namely, fennel, dill, borage, burnet, sorrel—are to be sown during the month.

Plant mint, thyme, sage, marjoram, lavender, rosemary, and rue.

Plant early potatoes in the very first chance of weather, as being superior even to peas as an early vegetable. Plant the second time in the last week of the month, which may be the first planting in the medium early climates. No earliest potato yet excels the ash-leaved kidney; the second early, as the Champion Prolific and others that ripen in August, should be ready and awaiting manure, on sandy or peaty ground if possible,

richly prepared by previous management. The autumn digging and the winter's exposure of the rough surface will most beneficially form the land into a very fine condition for being planted with the potato-sets, placed in shallow trenches or on the breast of the pits of a slight digging. Being the first of vegetables, the potato demands a persevering attention at all the periods of its production.

FRUIT DEPARTMENT.

If any fruit-trees or shrubs are planted, the work must be finished by the middle of the month. Puddle in the roots, and cover with an abundance of mulch, very moist, and thickly laid on the ground. If drought sets in, the trees may be fatally checked.

Begin to graft apples and pears. Cherries and plums do better by budding in summer.

Lightly fork the soil between rows of currants, gooseberries, and raspberries; then cover the ground with a well rotted leafy compost manure. Do the same by and round rhubarb plants.

Plant strawberries on beds of rich ground, fresh as possible, the rows or sets being one and a-half to two feet apart, and the plants six inches distant in the rows.

Single rows in borders should be a foot away from the edging, and as far from any vegetable or shrub. The plants may be permitted to thicken by off-sets as much as they will, but not to fill the ground with runners, unless with the object of obtaining a fresh supply.

It is presumed that all fruit trees, as cherries and plums, have been regulated and trained on the walls, and that apples and pears on espaliers were spurred and tied in last month.

FLOWER GARDEN.

Sow hardy annuals after the middle of the month, as pinks, larkspur, and mignonette; the half-hardy are raised in frames. Herbaceous plants may now be set, or divided, and placed in new situations.

Cut box-plant edgings, turn over gravels and put down fresh. Sweep lawns, and keep all places in neat order. Burn and carry away litter, clean and roll walks, roll and mow lawns.

Prune roses to well placed low beds. Mulch round the roots with rich compost, and fork it in. The strongest stems of the old varieties can frequently be made standards, on their own foundations, with good figure.

AGRICULTURAL REPORTS.

REVIEW OF THE CATTLE TRADE DURING THE PAST MONTH.

The cattle trade has been free from any important feature during the month. The receipts of stock from our own grazing districts have continued about the average, both as regards number and condition, but the foreign supply has been almost entirely composed of Spanish beasts. Less animation has been noticed in the demand for all breeds, and the value of the best sorts and crosses has receded to 5s. 6d. and 5s. 8d. per 8 lbs. Agitation for the repeal of all restrictions imposed upon the movements of English cattle has continued, and it is to be hoped that so soon as the foreign cattle market shall have been established, all receipts from abroad will be disposed of there, and nothing but home-fed stock being disposed of at Islington, it will no longer be necessary to maintain present restrictions.

With reference to sheep the supplies have been only moderate. Nevertheless, there has been but little activity in the inquiry, and the extreme price for the best Downs and half-breeds has not exceeded 6s. per 8 lbs. About 500 lambs have been offered, and have realised about 8s. per 8 lbs.

Calves, of which a moderate supply has been on sale, have been dealt in quietly at reduced prices.

Pigs have been dull and lower. The supply has been moderate.

In the pastures and meadow lands there has been an increased supply of grass, owing to the milder weather, but at the same time it is by no means plentiful, and there is still a good demand for feeding stuffs.

The total imports of foreign stock into London during the past month have been as under:

	Head.
Beasts	2,565
Sheep	12,166
Calves	519
Pigs	907
Total	16,157
Import at corresponding periods:	
Total in 1870	21,384
" 1869	27,988
" 1868	4,877
" 1867	26,206
" 1866	29,241
" 1865	22,904
" 1864	12,228
" 1863	10,500

The arrivals of beasts from our own grazing districts, as well as from Scotland and Ireland, thus compare with the three previous years:

From—	Feb., 1871.	Feb., 1870.	Feb., 1869.	Feb., 1868.
Norfolk, Suffolk, Essex, and Cambridgeshire.....	8,050	6,200	5,555	6,700
Other parts of England.....	1,250	2,070	3,160	2,000
Scotland	878	875	1,848	1,793
Ireland.....	660	1,240	851	820

The total supplies of stock exhibited and disposed at the Metropolitan Cattle Market have been as follows:

	Head.
Beasts	15,825
Sheep	72,690
Calves	644
Pigs	525

COMPARISON OF SUPPLIES.

	Feb., 1870.	Feb., 1869.	Feb., 1868.	Feb., 1867.
Beasts.....	16,322	104,186	858	350
1869	22,066	111,600	1,331	1,200
1868	16,840	83,480	593	1,670
1867	17,140	79,710	1,081	1,979
1866	21,240	85,070	1,125	1,215
1865	21,158	66,590	1,196	2,714

Beasts have sold at from 3s. 2d. to 5s. 10d., sheep 3s. 4d. to 6s. 0d., calves 3s. 8d. to 5s. 6d., and pigs 3s. 6d. to 5s. 2d. per 8 lbs. to sink the offal.

COMPARISON OF PRICES.

	Feb., 1870.	Feb., 1869.
	s. d. s. d.	s. d. s. d.
Beef from	3 2 to 5 4	3 4 to 5 8
Mutton	3 4 to 6 0	3 6 to 6 8
Veal	4 2 to 6 4	4 6 to 6 0
Pork	4 6 to 5 10	3 6 to 5 0
	Feb., 1868.	Feb., 1867.
	s. d. s. d.	s. d. s. d.
Beef from	3 2 to 4 10	3 4 to 5 4
Mutton	3 4 to 5 0	3 6 to 6 2
Veal	4 4 to 5 6	4 8 to 6 4
Pork	3 4 to 4 2	3 0 to 4 2

The dead meat markets have been moderately supplied. Trade has been quiet. Beef has sold at 3s. 4d. to 5s. 2d., mutton 3s. 4d. to 5s. 2d., lamb 6s. to 8s., veal 5s. to 5s. 4d., and pork 3s. 8d. to 5s. per 8 lbs. by the carcase.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

AXMINSTER GREAT MARKET.—Cows and calves £9 to £12, barreners £5 to £8, in-calf heifers £7 to £10, two-year-old heifers £4 to £5. Sheep, not many on offer, which mostly remained unsold. Beef 13s. 6d. per score; mutton 8d., veal 7½d., pork 7½d., green bacon 7d., dry ditto 9d., lamb 9d. per lb. Pigs, slips from 12s. to 16s. each; sows with their young from £2 to £8 each; fat pigs 11s. to 12s. per score. There was a large attendance, but owing to the scarcity and high price of hay and all kinds of winter feeding prices of stock generally ruled dull, with great difficulty to effect sales.

BOSTON FAT SHEEP MARKET.—Small show, with prices and demand about the same as last week. There was a large show of hogs for the season, and although the demand was somewhat slow, high prices were realised.

CARLISLE HORSE FAIR.—There was a fair display of horses, principally heavy animals. There were dealers present from the southern and eastern counties of England and the south of Scotland, and a disposition was shown to do business in the better class of horses, in spite of the high prices. Horses of middling qualities had advanced in price from 30 to 40 per cent. since last year's market. Harness horses were not so numerously represented, but those on offer could be sold easily at a large advance in price. Ponies also brought high figures. The following were the average prices: Best heavy horses for cart or dray £50 to £70, secondary £35 to £45, inferior £20 to £25; harness horses £20 to £40; ponies £9 to £25 each.

CASTLE-DOUGLAS HORSE FAIR.—The show was small. As usual there were a large number of Glasgow, Edinburgh, and west country dealers in the market, and everything good sold readily. The prices obtained were unprecedented in the experience of the trade. Good horses brought from £50 to £60, and secondary beasts from £30 to £45. Messrs. R. and A. Johnstone, Dumfries, sold a three-year-old draught horse to Mr. M'William at £53, and others from £30 to £48.

DUMFRIES FAIR.—The show of horses was above an average as to number, and there were shown a large number of first-class draught animals. Most of the stock exhibited belonged to dealers, of whom the attendance was large. A brisk demand for horses was anticipated, as the long period of frost had rather thrown ploughing into arrear. A good deal of business was done in the stables on Monday evening. Prices for superior draught horses were unprecedentedly high, the rise from the corresponding market of last year being from 20 to 25 per cent. First-class draught horses ranged from £55 to £85, and in a few instances higher figures were realised. Good useful animals for farm-work £35 to £50. Draught colts and fillies were bringing extraordinary prices; two-year-olds £30 to £45, three-year-olds £40 to £55. Saddle and harness horses from £40 to £85. The following are a few of the transactions: Mr. M. Tesnan, Dumfries, sold a three-year-old colt at £110, and a five-year-old horse at £80; a powerful black mare, winner of several first prizes in Cumberland, at £75; Tinwald Park, a four-year-old, at £63; a four-year-old at £70, and a five-year-old at the same figure; and nearly 80 others from £40 to £55. Messrs. A. and R. Johnstone bought a pair at £75 each, and another pair at £55; they sold a horse at £80, and two at £65 and £60, and then ranged down to £35. Mr. Thomas Currie, Dumfries, sold nearly 40 at prices ranging from £40 to £70, and a yearling colt at £32. Mr. John Brown, Biggar, sold a number of two and three year old fillies at £35 to £50. Mr. Hugh Crawford, Kilbarchan, sold at from £40 to £70; Mr. Carslaw, Mearns, sold the horse bought from Mr. Teenan for £120 to a Lanarkshire purchaser; Mr. John Smith, Bonshawside, sold a number of horses from £85 to £60; Mr. Joseph Brown, Hermitage of Urr, sold at from £40 to £55; Mr. Wyllie, Ochiltree, bought at from £25 to £60, and sold again at £130, and others from £30 to £50; Mr. James Dunlop, Beith, sold at from £30 to £49.

FORRES FEBRUARY MARKET.—Fat cattle may be quoted at 75s. per cwt. The following are a few of the transactions: Two two years old stots at £20, a quey at £17, and a three years old quey at £22 5s., six two years old crosses at £17 10s., three fat cows at £48, a Shorthorned bull at £32, six polled two years old at £17, a pair of queys £30, and a cow £16 10s., five queys at 12 gs. each, seven two years old polled crosses at £14, six two years old cross bullocks at £29, the top of the market.

GRANTHAM FAT STOCK MARKET.—A fair show of stock, and a good attendance of buyers. Mutton, ewes 8½d., wethers 9½d. per lb.; beef 9s. 6d., pork 8s. per stone.

ILSLEY FORTNIGHTLY MARKET.—From the scarcity of keep in this neighbourhood, we had a larger supply than usual at this time of year. Good tegs sold readily at from 50s. to 60s., inferior from 20s. to 40s.

LINCOLN FAT STOCK MARKET.—A large show of beasts and sheep, and a brisk trade, numerous buyers being present from the manufacturing towns. Beef made from 9s. to 10s. 6d. per stone, and mutton from 7½d. to 9½d. per lb.

MARKINCH FEBRUARY MARKET was one of the best that has taken place here for some time. There was an excellent supply of stock, and the attendance of farmers and dealers was large. There was a good demand, and business was brisk. The best fat sold at 9s. 6d. per imperial stone, middling and inferior 9s. to 9s. 3d. Among the lots of prime fat disposed of were the following: Two superior stots at £49, and two queys £35; a lot of four stots £26 10s., a good lot of stots, £26, a lot of six stots £22, and two at £16 each. A fat cow at £18. Very few lots of fat animals left the market unsold. Lean stock was in demand, but the prices asked were deemed too high by purchasers. There was a good turn-out of cows. Prices of milchers and those at the dropping ranged from £12 to £20. Farrow cows and queys at from £10 to £14.

MEIGLE CATTLE MARKET.—The prices of the best sorts of fat cattle remained about the same, but second-class beasts were slightly lower. There was a demand for calving cows, but the supply was inadequate. They fetched from £14 to £21 10s. each. The following sales were effected: A large lot of the best fat oxen on the ground, £27 10s. per head; a large lot of the highest price oxen ever sold at Meigle, £36 per head; a lot of two-year-olds, £15 per head; a lot of prime bullocks, £24 per head; one two-year-old bull, £20; a lot of queys, £11 12s. 6d. per head; calving cows, £13; a lot of three-year-old stots, £18 per head; an excellent lot of fat stots, £23 per head; calving cows, £11; a lot of stots, £15; a large lot of lean two-year-olds at prices ranging from £11 10s. to £14.

MILNATHORT MARKET.—The prices both of cattle and sheep were not up to the former quotations. For prime fat, prices may be stated from 11s. to 12s. per Dutch stone. There were several lots of Irish in the market, but of an inferior description, prices for which may be quoted £4 to £9 per head. The following were among the transactions: A pair of fat stots, considered among the best in the market, £49 the pair. A lot of stots £20 10s., and three queys £19 per head; a cow and a quey £20 each; three cows £13 to £16 10s. each, and three fat queys at £38 the lot; four cattle £16 7s. 6d. per head; a capital lot of three fat cattle £64; a bull £13 10s.; five queys £14; a lot of five cattle £17 15s. per head; two calves £9; three queys £51 the lot; a lot of cattle £9 per head; two cows £34, two £29, and a farrow cow £11. Very few lots of sheep were present. A lot of two years old old cross sheep £1 18s.; a lot of blackfaced ewes £1 6s., and a lot at £1 3s.; a lot of crosses at £2 4s. Prices generally were considered somewhat stiff.

MODBURY MONTHLY MARKET.—There was as usual a large attendance, the weather mild and fine; the cattle supply was unusually large and good, and a brisk amount of business was transacted on the following scale: Fat cattle £3 5s. to £3 10s., inferior £1 15s. to £2 per cwt.; cows and calves £16 to £20 each; ewes and lambs 50s. to 55s. per double couple, sheep 8½d. to 9d. per lb.

NEWARK FAT STOCK MARKET.—There was a fair supply, with many buyers from a distance, and a brisk sale at late rates, beef averaging 9s. 6d. per stone, sheep 7½d. to 9d. per lb., and pigs 7s. 6d. per stone.

NEWTON-STEWART HORSE FAIR.—The number of animals exhibited was far below the average both in quantity and quality—indeed there were very few shown out of the stables—but there was an excellent demand, and prices ruled high considering the quality. We heard of one harness horse bringing 90 gs. Draught animals ranged from £25 to £30, and one or two were said to be even a little higher.

SHREWSBURY FAIR.—There was a large attendance of buyers, and a very good show of animals of all kinds. Fat beasts sold pretty well, but upon the whole it was a hanging market. Store stock a drag. Beef fetched from 7½d. to 8d. per lb., mutton 8½d. to 9d. Pigs were extensively penned,

and upon the whole sold well, especially small stores. Bacon pigs, on an average, fetched about 6½d. per lb. A good deal of business was done.

SLEAFORD FAT STOCK MARKET.—A small show of fat sheep, which met with a very limited trade. Good show of beef, which realised extreme prices. Large show of fat pigs, which met with a brisk trade. Five mutton realised from 7½d. to 8d. per lb., wether ditto 9½d. to 10d., hoggs from 28s. to 58s. each; beef 9s. 6d. to 11s.; pork 7s. 6d. to 7s. 9d. per st.

WARWICK FAIR.—There was a large attendance of butchers and dealers, and bidding was spirited. Beef made from 7½d. to 8d., and mutton 8d. to 9d. per lb., and bacon pigs sold at from 10s. to 11s. per score. The prices of store pigs varied according to size and quality.

WEM FAIR.—There was a good supply of cattle and pigs, and a good attendance of buyers. Pigs sold better than at previous fairs, and there were also a fine lot of good sheep, all of which sold well. Beef 7d. to 8½d., mutton 7½d. to 8½d., fat pigs 10s. 6d. per score.

IRISH FAIRS.—**ENNISKILLEN:** Best beef rated as high as 68s. per cwt., sinking the offal; inferior quality, 56s. per cwt. Three years old heifers sold at £19 to £21 each, two years old at £17, yearlings at £5; calves sold at 50s. Three years old bullocks sold at £18 each, two years old at £14, and yearlings at £4 10. Strippers were in brisk demand, and fetched good prices, ranging from £16 10s. Store heifers fetched £14. Stall-feds sold at £18 each, milchers £12 to £18, superior quality. The sheep fair was thinly supplied. Hogget sheep 31s. to 43s. a-head, ewes 40s. to 52s., wethers 48s. to 64s. a-head. The supply of pigs small. Bacon 50s. to 52s. per cwt. Good stores, £2 15s. to £3 10s. Slips and bonhams 35s. to 47s. per couple.—**CAVAN:** The array of black cattle appeared to be in excess of the average for this season of the year. Two choice springers sold at £18 each; one at £18 15s., and one at £19s.; but these were the top figures. I understand three of them were purchased by dairymen from Belfast, and one by a Dublin dealer. The general prices obtained for this now valuable class of animals was from £11 and £12 to £15 10s. per head. In the fat cattle department, the best specimens of beef were sold out at late prices—say, from 54s. to 60s. per cwt. in the range. An odd superior animal might run close on 7d. per lb. Dry cattle were much sought after by shippers, and a good deal of business was done. Two-year-old store cattle rated readily from £7 10s. to £10 10s., some three-year-olds £11 to £14 each, yearlings £3 15s. to £6. We had a very fair demand for good mutton, which rated at 8d. per lb. as the highest figure, inferior 6d. to 6½d. In the swine department there was a good supply. Bacon pigs readily fetched from 52s. per cwt. upwards on the foot. Slips and bounives were enhanced in prices, as were suckers also, the latter readily fetching for anything worth quoting 18s. to 25s. each.—**PARSONSTOWN:** Bullocks very scarce, and sold freely. Three-year-old heifers £11 to £14, two-year-old ditto £7 10s. to £10 10s. Some splendidly-finished heifers brought £22 12s. 6d., others £14 to £16. An increased demand for sheep of all descriptions, and a considerable advance on late prices. Mutton brought fully 7½d. per lb., and hoggets from 34s. to 46s. Some horses suited for agricultural purposes and useful colts changed hands.—**NAVAN:** Beef at from 60s. to 70s., sinking the offal; secondary quality 56s. to 60s. Stall-fed beasts averaged from £17 to £23; some fine lots were disposed of at from £16 to £24. There was a large supply of store cattle; three-year-old bullocks £15 to £17 10s., two-year-olds £9 to £12 10s., three-year-old heifers £14 to £16, two-year-olds £10 to £12, yearlings £5 to £6 10s. each. Springers in good demand; some sold as high as £24. Strippers £10 to £16. Fat hoggets £3 to £3 10s., wethers £2 10s. to £3, ewes £2 to £2 10s., stores 25s. to 40s. each. In the pig fair bacon was 54s. to 58s. per cwt.; fat hogs £7 to £10, good stores £3 to £4, second size £2 15s. to £3, bonhams 30s. to 40s. per couple.—**CASTLETOWN CONYERS:** Prices were dear; yearling store cattle were worth from £6 to £9 10s., two-year-olds from £8 to £16, three-year-olds from £9 to £20; prime fat cattle were worth from 65s. to 70s. per cwt.—**BAGNALSTOWN:** Fat cattle were only in moderate supply, but sales were brisk at full rates. Fat cattle fetched from £15 10s. to £19 10s., other kinds from £12 10s. to £14 5s. Milch cows scarce, though in needy request. Those sold realised from £13 5s. to £15 15s., three-year-old heifers from £14 10s. to £15 10s., two-year-old

heifers from £12 5s. to £13, yearlings £6 6s. to £7 10s., Store stock in large numbers, from £10 10s. to £11 15s., springers £15 10s. to £16 16s., strippers £11 15s. to £13 10s., three-year-old bullocks £12 15s. to £13 13s., two-year-old bullocks £11 11s. to £12 10s., yearlings £4 15s. to £5 15s. A moderate show of sheep. Fat sheep from £2 15s. to £3 5s., hoggets £2 5s. to £2 10s., ewes £2 7s. to £2 10s., stores 30s. to 33s. There was a good supply of pigs. Fat pigs £6 to £7 7s., store 40s. to 50s., bonhams 14s. to 18s.—**KILDARE:** Fat cattle sold well, and prices were remunerative. The average quotations were from £16 16s. to £22, other descriptions realised from £13 10s. to £14 10s., three-year-old heifers from £13 15s. to £15 15s., two-year-old heifers from £12 5s. to £13 10s., yearlings £6 10s. to £7 15s. Milch cows limited, and fetched from £12 10s. to £15 10s., springers £15 to £16 10s., strippers from £11 12s. to £13 10s., two-year-old bullocks, £11 10s. to £12 12s., yearlings £5 to £6 5s. Store stock, in demand, fetched from £9 9s. to £12 10s. The sheep department was pretty well supplied; fat sheep from 56s. to 62s., ewes 43s. to 49s., hoggets 42s. to 45s., stores 29s. to 34s. In Pigs there was a good attendance. Fat Pigs rated from £6 10s. to £8 5s., lighter kinds sold from £2 15s. to £4 10s., stores 42s. to 50s., bonhams 15s. to 18s.—**VIRGINIA:** Beef was in good demand, at from 60s. to 70s. per cwt.; store cattle sold at from £11 to £14 each, two-year-olds £10 to £12, yearlings from £4 10s. to £6. The supply of sheep was medium; hoggets £2 to £3 10s., ewes £2 to £2 10s., ewes £2 to £2 10s. each, stores from £1 15s. to £2 5s. In the pig fair bacon may be quoted at 50s. to 58s. per cwt., sinking the offal included, stores from £2 to £3 each, slips and runners from 30s. to 40s. per couple.

LONDON CHEESE MARKET, Feb. 16.—We have to report a rather quiet trade in general since our last. The chief inquiry has been for useful cheese (at moderate prices), both English and American; and a fair quantity, chiefly American, has been sold at about 54s. to 66s. For the finer descriptions of cheese (English, Scotch, and American) the demand just now is rather slow. Extra choice quality is scarce, and will bring good prices. The standard of quality and flavour here is high, and too much of the cheese sent from the country as fine falls in most respects below the requirements of our market, and ranges here as second-rate or medium, for which descriptions there is at present only a very limited inquiry, and at prices far below senders' valuations. The arrivals of American cheese reported since Thursday last are 11,501 boxes.—**CORDEROY AND CO.**

GLASGOW CHEESE MARKET, (Wednesday last.)—Official Report: A liberal supply of cheese. There was a good demand for medium cheese, at from 58s. to 61s. per cwt.; also finest Dunlops were in good request, while Cheddars are without change, at about last week's prices.—*Messrs. A. and J. Allan's Report:* The supply of cheese smaller than it has been for the last two market days. A good demand at full prices, and extra stock clearing off. The qualities arriving are chiefly lower and medium. Cheddars, 60s. to 68s.; Dunlops, 59s. to 66s. per cwt.

THE SALE OF HEREFORDS AT HEREFORD.

By Mr. T. DUCKHAM, ON FEBRUARY 8TH.

Seventeen of the twenty-seven lots in the catalogue were either passed without biddings, not put up, or bought in. The effect of the shortness of keep was very visible, and, no doubt, had its effect on the sale, as the animals were in anything but show condition. The following were the only lots sold at fair prices:

Mr. P. Turner's (The Leen) Preceptor, calved July 26, 1869.
—Mrs. Wickstead, 45 gs.

Mr. A. Rogers' (The Rodd) Kingcraft, calved August 5, 1869.
—Mr. Turville, Hants, 43 gs.

Rev. A. Clive's Grateful, calved November 27, 1869.—Mr. Paske, Abergavenny, 26 gs.

Rev. A. Clive's Clansman, calved January 14, 1870.—Mr. Morris, £23 2s.

Mr. H. R. Evans' (Swanstone Court) Wellington 2nd, calved October 5, 1869.—Mr. Nott, 26 gs.

Mrs. Edwards' (Wintercott) Count Bismarck, calved August 24, 1869.—Mr. Smith, Tenbury, 26 gs.

Mr. W. Tudge's (Caston) Gambetta, calved August 2, 1869.
Mr. Badham, Hereford, 27 gs.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

Fluctuations in the weather quite in the extreme have characterized the past month, there having been two smart touches of 8 degrees of frost, with high temperature between them, and still higher as the month advanced, and though much rain fell early it finished unusually fine. The sharp visits have much cut up the wheat on light lands, and pretty well destroyed the winter beans and oats, but the tares have stood them well, and also the wheat plants on strong soils. The late sunshine and heat are rapidly changing the face of the meadows, which promise an early bite for the cattle, and as the ground is charged with moisture let us hope for a good and early crop of hay. March winds, however, are wanted for the surface, and to get the spring seeding forward. Beans and peas have already been commenced; but such a damp atmosphere has been very prejudicial to the newly thrashed wheat, and the bulk has been in such poor condition that sales have been difficult. The capitulation of Paris, known on the first Monday, gave a start of 2s. to prices, but half of this was lost at the month's close, when the wants of the place were provided for, and a large portion went from London in the shape of flour to the extent of 134,000 sacks, with a temporary rise in the manufactured article of from 2s. to 8s. per sack, which could not finally be sustained. As the question of peace or war will now shortly be settled with every probability of the former, we shall soon know what the general wants of the country may be, and by this knowledge prices for a time will be determined, but the waste and desolation have been so great that much more must yet be needed, and should evil counsels prevail the mischief would be incalculable, besides the fearful losses on human life. Our country deliveries ever since harvest having been larger than for some time past, it seems reasonable to infer that if we have only gathered an average crop our own produce must be much diminished, but there are some growers who, while they admit a great inequality of growth, and serious deficiency in the light lands, maintain that this has been more than made up on the strong and deep soils, and that to such a degree that on the whole the year 1870 was equal to the great year 1868. For the sake of France, as well as the remuneration of farmers, we would fain hope as much, but no tabular statement justifies such a view, and we pretty well know that all Europe, Russia excepted, had a poor yield, and if American accounts are to be relied on, that continent has also been deficient in quantity, notwithstanding the excellence of the quality. The chances, therefore, any how, seem more in favour of an ultimate rise than otherwise, taking it for granted that the growing crops throughout the world will come up to an average. The following were the last prices quoted: Paris has come down from very high rates to 10d. for the quartern loaf, with expectation of a further fall. At Marseilles, whence supplies have been sent on to the capital, the price of Berdianski wheat has been 56s. per qr.; Banat, 53s.; white Zealand wheat at Rotterdam was worth 58s.; the best wheat at Antwerp, 63s.; at Hambro, prices ranged from 55s. to 58s.; Berlin and Stettin quote 58s. for red qualities high mixed; at Danzig, 57s.; at Philadelphia, No. 1 new Spring wheat 52s. 3d. per 480lbs; Californian, 65s.; at New York No. 1 new spring, 51s.; winter, 52s. 3d. By last telegram 52s. cost, freight, and insurance for old No. 2

Milwaukie, and 63s. cost, freight, and insurance, for white at San Francisco.

The first Monday of the past month, which commenced on the 30th January, had a moderate supply of English wheat, with very little foreign. The Kentish and Essex stands during the morning were but poorly furnished with samples, and the condition was mostly bad. The news, however, from France, confirming the capitulation of Paris, enabled factors to obtain an advance of 2s., but the sales were only slowly made. American red qualities were more in favour, and 2s. over the previous rates readily paid, as well as for good Russian, but Baltic sorts were only 1s. per qr. higher. Floating cargoes went off freely at 1s. per qr. more money. The French news also affected the country wheat trade, though some localities only noted 1s. per qr. improvement, as Boston, Louth, Newark, Rotherham, Spilsby, and Sheffield. Others were 1s. to 2s. higher, as Brigg, Bristol, Gloucester, Ipswich, Hull, Gainsborough, Leeds, Spalding, and Thirsk. Sleaford, Market Rasen, and Market Harborough were up 2s., and some towns called the advance 2s. to 3s., as Alford, Lynn, and Melton Mowbray; but Liverpool, after a rise of 2d. to 8d. per cental on Tuesday, lost 1d. on Friday. Edinburgh was 6d. to 1s. per qr. dearer, and Glasgow 1s. higher per boll. Dublin improved 6d. per brl. for native wheat, but was only firm for foreign. Belfast noted no change.

On the second Monday there were moderate native supplies, but the foreign arrivals fell exceedingly short. The exhibition of fresh samples from Essex and Kent was limited, but in such bad condition that very little could be got rid of, though anything really fine and dry was worth about the same money. There was a limited inquiry for foreign, and had holders been determined to sell they must have accepted less money. No change of value was noted in floating cargoes. With very damp mild weather prevailing through the country, buyers found a general difficulty in placing their samples, unless fine. Advices this week came so uniform that a specification seems needless, and we can therefore only note that the tendency was rather towards decline. Liverpool gave way 1d. per cental on Tuesday, with the same further reduction on Friday. Both Edinburgh and Glasgow accepted 1s. per qr. less money. Dublin was dull, both for native and foreign samples.

On the third Monday there was a limited English supply, but it was made up by increased arrivals from abroad. Again the native samples on the Essex and Kentish stands were generally so inferior in condition that millers for the most part passed them by, though fine lots were scarce enough to command the previous rates. Foreign, on the whole, was dull, but the continued large demand for flour indisposed holders to take less money. The few arrivals off the coast sold quietly at the previous rates. The country trade was generally dull this week, but the tendency downwards was not universal. Birmingham and Maidstone reported a decline of 1s., and Bristol called the reduction 1s. to 2s., but on the other hand Sleaford and Stockton were 1s. per qr. up. Liverpool was dull on both markets. Glasgow was quiet and unchanged this week, and Edinburgh noted the small rise of 6d. per qr. At Dublin, wheat, both Irish and foreign, was a slow sale at unaltered values.

The supplies of oats for four weeks were scarcely ever known to be so short, English and foreign together not coming up to one week's ordinary average, and when the exports have reached to 14,708 qrs., it shows the demand has only been met from the granary stores, which, though lessened by about 150,000 qrs., yet remain very heavy, and are quite likely to last till the Baltic is fairly open again, which, from the late mildness, may take place earlier than usual. It is this consideration that has kept the advance from exceeding 1s., excepting for fresh heavy. English and Scotch samples, the latter of which, from

The seed trade generally has assumed a very firm aspect both as regards red and white cloverseed, as well as trefoil, rather more money having been lately paid for fine samples, but the demand has not been brisk, excepting for tares, which during the month have advanced to 45s. for small spring foreign; large Yorkshire were held at 10s. per bushel.

	Shillings per Quarter.	
WHEAT, Dantzic, mixed	56 to 58.....	extra..... 59 to 63
Königsberg	54	57.....extra..... 57 59
Rostock	54	57.....fine 57 59
Silesian, red	51	55.....white 54 57
Pomera., Meckberg., and Uckermark. ...red.....		54 58
Russian, hard, 43 to 44...St. Petersburg and Riga		46 51
Danish and Holstein, red 53 55.....		American 50 55
Chilian, white 60... Californian 60 ... Australian 60		62
BARLEY, grinding 26 to 30....distilling and malting		33 35
OATS, Dutch, brewing and Polands 23 to 26.....feed		21 24
Danish and Swedish, feed 22 to 25.... Stralsund...		23 26
Canada 31 to 33, Riga 23 to 23, Arch. 22 to 23, P'abg.		23 27
TARES, Spring, per qr	small 41	45.....large 00 00
BEANS, Friesland and Holstein		43 44
Königsberg	40 to 43...	Egyptian 38 39
PEAS, feeding and maple ...34		36...fine bollars 37 39
INDIAN CORN, white31		35...yellow 30 34
FLOUR, per sack, French ..00		00...Spanish, p. sack 00 00
American, per brl35		36...extra andd'ble. 37 39

COMPARATIVE AVERAGES.

WHEAT.			BARLEY.			OATS.		
Years.	Qrs.	s. d.	Qrs.	s. d.		Qrs.	s. d.	
1867...	53,137½	59 11	38,128½	43 4		7,106½	24 3	
1868...	48,45½	72 11	51,915½	43 9		12,296½	26 2	
1869...	61,102½	50 3	30,688½	47 0		5,893½	27 4	
1870...	51,039½	40 8	46,254½	34 2		5,393½	19 10	
1871...	76,735	53 11	53,851½	35 7		7,588½	23 7	

AVERAGES

FOR THE PAST SIX WEEKS:			Wheat.		Barley.		Oats.	
			s.	d.	s.	d.	s.	d.
Jan. 14, 1871.....			53	1	35	2	23	5
Jan. 21, 1871.....			52	9	35	9	22	9
Jan. 28, 1871.....			52	6	35	5	22	8
Feb. 4, 1871.....			52	10	35	4	23	11
Feb. 11, 1871.....			53	7	35	8	23	9
Feb. 18, 1871.....			53	11	35	7	23	7
Aggregate of the above ...			53	1	35	6	23	4
The same week in 1870.....			40	8	34	2	19	10

FLUCTUATIONS in the AVERAGE PRICE of WHEAT.

PRICE.	Jan. 14.	Jan. 21.	Jan. 28.	Feb. 4.	Feb. 11.	Feb. 18.
53s. 11d.
53s. 7d.
53s. 1d.
52s. 10d.
52s. 9d.
52s. 6d.

BRITISH SEEDS.

MUSTARD, per bush., brown 12s. to 14s., white	10s. to 11s.
CANARY, per qr.....	64s. 68s.
CLOVERSEED, new red	72s. 86s.
CORIANDER, per cwt.....	21s. 22s.
TARES, winter, new, per bushel	8s. 8s. 6d.
TRIFOIL, new	22s. 24s.
RYEGRASS, per qr.	30s. 34s.
LINSEED, per qr., sowing 69s. to 70s., crushing	57s. 62s.
LINSEED CAKES, per ton	£11 0s. to £12 0s.
RAPESEED, per qr.....	76s. 80s.
RAPE CAKE, per ton.....	£5 15s. 0d. to £6 10s. 0d.

FOREIGN SEEDS.

CORIANDER, per cwt.....	21s. to 22s.
CARAWAY, new	32s. 33s.
CLOVERSEED, red 5ls. to 6ls., white	72s. 86s.
HEMPSEED, small 4ls. to 42s. per qr....Dutch	45s. 46s.
TRIFOIL.....	22s. 24s.
RYEGRASS, per qr	38s. 42s.
LINSEED, per qr., Baltic 57s. to 61s...Bombay	61s. 62s.
LINSEED CAKES, per ton.....	£11 0s. 0d. to £12 0s. 0d.
RAPE CAKE, per ton.....	£5 15s. to £6 10s.
RAPESEED, Dutch	72s. 76s.

HOP MARKETS.

BOROUGH, MONDAY, Feb. 20.—The healthy condition of our trade continues to be well supported by a steady demand for every description. Medium qualities are in abundance, but firm in value. The advance in the foreign market, quoted in our last, is well maintained and a good demand exists, especially for the choicest grades. Latest advices from New York report the market inactive, there being only a slight inquiry for choice qualities. Imports up to the present date amount to 24,039 bales.

Mid and East Kents	£2 0	£3 10	£7 0
Weald of Kent.....	2 0	2 16	3 15
Sussex	1 15	2 5	3 10
Farnham and Country ...	3 15	4 15	5 12
Olds	1 0	1 15	2 10

CANTERBURY HOP MARKET, (Saturday last.)—The continued withdrawal of samples from market has checked business, but prices are firmer in consequence. Choice hops are in request, and middle qualities move off at late rates.

WORCESTER HOP MARKET, (Saturday last.)—The few samples shown were not fine in colour or quality. There was a little better demand at about late rates for the best sorts.

SOUTHWARK WATERSIDE.

LONDON, MONDAY, Feb. 20.—During the past week the arrivals coastwise have been moderate, although a fair average by rail. The trade keeps steady, and best sorts make a little more money. The following are this day's quotations:

Yorkshire Flukes	100s. to 110s.
Do. Regents	80s. to 90s.
Lincolnshire do.	75s. to 80s.
Dunbar and East Lothian do.	80s. to 90s.

BOROUGH AND SPITALFIELDS.

LONDON, MONDAY, Feb. 20.—These markets have again been well supplied with Potatoes. There has been a want of animation in the inquiry, and prices have ruled as under:

English Shaws.....	80s. to 110s. per ton.
Regents	70s. to 90s. "
Scotch Regents	75s. to 90s. "
Rocks	65s. to 75s. "

ENGLISH WOOL MARKETS.

CITY, MONDAY, Feb. 20.—The tone of the English Wool market is firm, though the transactions are not numerous. Sales are chiefly confined to lustres and demi-lustres, as for some time past, and prices are steadily maintained. Middle hoggs' are in quiet demand. At the colonial Wool sales the attendance has been good, German buyers being somewhat numerous, and the opening advance in price has been well supported.

CURRENT PRICES OF ENGLISH WOOL.

	s. d.	s. d.
FLENCES—Southdown hogs	per lb. 1 0½ to 1 1½	
Half-bred ditto	" 1 3 1 4	
Kent fleeces	" 1 2 1 3	
Southdown ewes and wethers ...	" 0 10½ to 0 11½	
Leicester ditto	" 1 1 1 1½	
SORTS—Clothing, picklock	" 1 4 1 4½	
Prime.....	" 1 2½ 1 3	
Choice	" 1 1 1 2	
Super	" 1 0 1 0½	
Combing, wether mat.....	" 1 2½ 1 3	
Picklock	" 1 0½ 1 1	
Common.....	" 0 11 0 11½	
Hog matching	" 1 4 1 4½	
Picklock matching	" 1 0½ 1 1	
Super ditto	" 0 11 0 11½	

BRADFORD WOOL MARKET, (Thursday last.)—The market, though not materially different in respect of amount of business, is, to some extent, slightly better than Monday, owing to the more confident feeling which exists as to continental affairs. There is a little more looking round, and though buyers abstain from increased operations, they are evidently posting themselves up with a view to purchasing should the armistice result in peace. The demand is pretty general in character to-day, good wethers, skin wools, and even hoggs sharing the notice of buyers. In the latter, there are indications of a return to favour, as staplers report more inquiry in them, and seem to be of opinion that they will shortly be taken into consumption. Prices present no appreciable alteration, stocks are not unhealthily large, and holders show no anxiety to press sales. Country quotations are so close up to those current here as to leave no margin of profit for purchases made for this market, and this tends, no doubt, to strengthen the position of staplers. On the whole, therefore, though the upward tendency is still arrested, there is great stability, and no signs of weakness so far as value is concerned.—Bradford Observer.

BRESLAU WOOL REPORT, Feb. 16.—The demand for our article is in the increase, with prices slowly advancing. The chief request continues for the inferior descriptions, very considerable quantities of which are weekly passing in the hands of consumers. In the meantime the better qualities are a little more considered, and many a flock disposed of at enhanced rates, Rhenish and Austrian commissions being the buyers. The whole amount of sales during the last fortnight has been about 4,000 cwts., which have been effected at an average advance of 1d. to 1½d. per lb. Holders are generally very confident and expecting a further near improvement.—GUNSBERG BROTHERS.

PRICE CURRENT OF GUANO, &c.

Peruvian Guano direct from the importers' stores, £14 per ton.	
Bones, £7 0s. to £7 15s. per ton.	
Animal Charcoal (70 per cent. Phosphate) £5 per ton.	
Coprolite, Cambridge, whole £3, ground £3 10s. per ton.	
Suffolk, whole £3 10s., ground £3.	
Nitrate of Soda, £15 15s. to £16 5s. per ton.	
Gypsum, £1 10s. Superphosphates of Lime, £5 5s. to £6 5s. per ton.	
Sulphuric Acid, concentrated 1·845 1d. per lb., brown 1·712 0½d.	
Sulphate of Ammonia £16 0s. to £17 10s. Salt (in London) 2s. per ton.	
Blood Manure, £6 5s. to £7 10s. Dissolved Bones, £7 0s. per ton.	
Linseed Cakes, best American bri. £12 0s. to £13 10s., bag £11 to £12 15s. English £20. Marseilles, £20 per ton.	

E. PURSER, London Manure Company,
116, Fenchurch Street, E.C.

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Perfection

It is a step in the progress of the human mind towards perfection and
the human mind is an eternal and ever increasing one.

Lactarium

A ch. crystalline substance the property of $\frac{1}{100}$ is exchanged the $\frac{1}{100}$ is exchanged of $\frac{1}{100}$ is exchanged

THE BRITISH FARMER'S MAGAZINE, NEW SERIES.

VOL. LX.

1871.

NO. CXXXIX.

PLATE I.

PERFECTION; A PRIZE DEVON HEIFER.

THE PROPERTY OF MR. TREVOR LEE SENIOR, OF BROUGHTON HOUSE, AYLESBURY.

Perfection, bred by the late Mr. Charles Gibbs, of Tatham, Bishop's Lydeard, Somerset, was by Young Sir Peregrine, a son of Mr. Walter Farthing's prize bull Sir Peregrine, out of Daisy, one of a tribe of prize Daisies bred by Mr. Gibbs.

Perfection was two years and a half old when exhibited at the last Christmas shows. As a yearling in 1869 at Taunton, Perfection took the first prize in her class. She was subsequently sold to Mr. Trevor Senior, and at the Royal and Central Bucks meeting at Aylesbury in the September of 1870 she took the first prize of five guineas as the best fat cow or heifer against an entry of Short-horns. At the Midland Counties meeting at Birmingham she took the first prize of £15 in the Devon Heifer class. At the Smithfield Club show she took the first prize of £25 in her class, and the silver cup, value £40, as the best cow or heifer in any of the classes. Her weight here was registered at 14 cwt. 3 qrs. 19lbs. Mr. Senior had intended keeping the heifer on for another year, but an outbreak of Foot-and-Mouth disease in the Hall necessitated her being at once sold and slaughtered.

On first seeing Perfection, at Birmingham, we thus spoke of her: "The three prize heifers were all good, although the pick of the three was unquestionably Perfection, who, but for her falling away a little in her quarters, went far to realize her title. She has lots of style, a sweet head, a long, straight, well-covered frame, with a good touch, and heavy accordingly was the wagering that she would be first, and first both in Birmingham and in London. But

still she was not the best of all the Devons, nor even of the Devon cows and heifers, and perhaps Lady 2nd might fairly compete with her; but if it ever does come to a champion from this lot of Devons in London we certainly do not expect to see Mr. Smith's steer again at their head."

On the opening morning of the Smithfield Club show we said "Mr. Senior's beautiful heifer was again the first of her class;" and during the week that "of all the eccentricities in the way of judging stock there has certainly of late been nothing to compare with the awards over the Devons at Birmingham. It is only charitable to assume that his two colleagues permitted Mr. George Turner to have it very much his own way with this breed, as of course the outside world would hold the Devon man mainly responsible for the Devon awards. When they had the four winners of the classes out to select the best of all the Devons, and when they did select Mr. Smith's steer our comment to the steward who gave us the result was, 'why, it was a hundred to one on heifer.' As our readers are aware we said as much in our report; nevertheless, *The Times* called him 'a superb steer,' said that the best Devon cow was 'a model,' but could not find a word of special compliment for Mr. Senior's heifer. And here in London the superb steer and the model cow took no prizes whatever; while Perfection, who, as we had said went far to realise her title, now closed up in place of the steer with Mr. Pulver's ox as the best of all."

PLATE II.

DALESMAN; A THOROUGHBRED STALLION.

THE PROPERTY OF HIS EXCELLENCY THE LORD LIEUTENANT OF IRELAND.

Dalesman, bred by Baron Rothschild, in 1863, is by King Tom out of Agnes, by Pantaloon, her dam Black Agnes, by Velocipede—Walton—Young Noisette, by Diomed.

King Tom, bred by Mr. Thellusson in 1851, is by Harkaway, out of Pocahontas, by Glencoe. King Tom was a superior race-horse, and when quite off ran a good second to Andover for the Derby. His stock came out

as two-year-olds in 1859, and he is the sire, amongst other winners, of King of Diamonds, Mainstone, Irene, Prince Plausible, Queen of the Vale, Tomyris, Janus, Old Calabar, Queen of Spain, Wingrave, Kean, Otho, Tom Fool, Crafton Lass, Evelina, Hippolyta, King of the Vale, Mogadore, Tomato, Breeze, King Charming, Warrior, Guinivèrre, Janitor, King Hal, Dalesman, Kingsley, Rhymer, Tourmalin, Tormentor, Hippias, Contempt, Gaiety, Jasper, Osprey, King Alfred, Kingale, Nyanza, Restitution, War Queen, Mahonia, King o' Scots, Corisande, Hannah, and Kingcraft. King Tom is the sire of more than a hundred winners, and his stock now includes one winner of the Derby in Kingcraft, and two winners of the Oaks in Tormentor and Hippias, while the best show-stallion of his time is indisputably Dalesman. King Tom is of course still at Mentmore.

Agnes, bred by Mr. Foljambe in 1848, never ran, but went early into the Mentmore stud, where her produce includes Queen of the Vale, King of the Vale, Dalesman, Evelina, and Camilla, all by King Tom.

Dalesman is a bright chestnut horse standing sixteen hands high. He has a lean head, with a thoughtful-looking eye, a good but rather light neck for a stud horse, and nicely-laid shoulders without lumber. He has a deep well-set middle, with a short strong back, and good quarters. Dalesman is altogether a compact, strong-built horse on well-formed limbs, scarcely looking his height. He has, moreover, a fine temper and generally finds favour wherever he goes. Still he is somewhat slovenly in his attitude when standing "at ease," and when in action his toes, fore and aft, have an inclination outwards; but he proves well, and the more you look the more you like him.

Dalesman came out as a two-year-old in 1865, when however he only started three times; but in four seasons he ran close upon forty races. He was not very successful as a race-horse, keeping always the best of company, and in his seven victories a couple of Royal Plates look like his picked performances. As a three-year-old we once saw Major Barlow following him off the heath with longing eyes, and in 1869 the chestnut left Newmarket for Hasketon, where he served mares during that season.

At the Islington Horse show, in the summer of 1869, Dalesman was exhibited for the first time, when he took the £50 premium and medal as the best thoroughbred stallion, with Colonel Astley's Broomeclaw and Mr. Griffiths' Ivanhoff highly commended, and Mr. Holmes, Whitby disqualified.

At the Colchester Meeting of the Essex Agricultural Association he took the All-England prize of £25 for thoroughbred stallions.

At the Attleborough Meeting of the Norfolk Agricultural Association he took the prize of £10 and Lord Hastings' cup of £10 for thoroughbred stallions, with Mr. Jolley's Little Hastings second, and Mr. Growcock's, Mr. Stiggins highly commended.

At the Ipswich Meeting of the Suffolk Agricultural Society he took the first prize of £25 for thoroughbred stallions, with Lord Stradbroke's Beauvale second.

At the Manchester Meeting of the Royal Agricultural Society of England he was highly commended and the reserve number in the class of thoroughbred stallions, Lord Zetland's Carbineer taking the first prize, Mr. Casson's Motley the second, and Messrs. Moffatt's Laughing-Stock the third. This was the only occasion on which Dalesman was ever beaten in the show-ring.

At Birmingham he took the first prize of £30 for thoroughbred stallions, with Mr. Westley Richards' Amusement second, and Mr. H. Brown's Redoubt third.

At the Lincoln Meeting of the Lincolnshire Agricultural Society he took the first prize of £40 as the best thoroughbred stallion, with Mr. Wilkinson's Cariboo second.

At the Beverley Meeting of the Yorkshire Agricultural Society he took the first prize of £30 for thoroughbred stallions for getting weight-carrying hunters, with Mr. Martin's Wyndham second, Mr. Casson's Motley third, and Sir George Cholmley's Angelus commended; thus, so far as possible, correcting the Royal decision.

Dalesman was sold early in 1870 to Lord Spencer, and the last time we saw the chestnut he was wending his way through Temple Bar on his road to Althorp, where he has since been located.

HORSE SHOWS AND THE PRIZE SYSTEM.

As certainly as we see turkeys at Christmas, expect a thunder-storm about Midsummer, and look for an outing in the autumn, so surely shall we have a periodical attack on the Prize System. Far away the most successful feature of the second Oxford show was the series of premiums for farms, and straightway it was urged that the Report thereon would be infinitely more interesting if there were no premiums. *Why* so, it would be difficult to say, as by means of such an incentive the Royal Agricultural Society will be enabled to continue or supplement the several County Reports, which, written in competition for prizes, embody some of the most valuable information ever published in the *Journal*. Then, of

course, every now and then some of the implement makers waken up to the fact that however advantageous the Prize System may have been once upon a time, it is so no longer. Improvement has gone as far as it well can go, people would watch the trials quite as closely without the inducement of premiums as with them, preparing for a show is very expensive, and so forth. Fortunately or unfortunately this experiment has been made. The Bath and West of England Society arranges for trials but offers no premiums, and in the Society's own special report of a year or two since the writer duly chronicled the stands on the show-ground; and took no notice, made no mention whatever of the trials in the field, as the probability is

that he had never visited them. Warned in time the national Society will offer some of the highest prizes ever placed on its list at Wolverhampton, where the prizes for farms will also be repeated; while at a Council meeting of the Yorkshire Agricultural Society on only Thursday last, it was resolved to offer no less than £680, to be divided into first, second, and third prizes, for the best examples of profitable farming in the county of York. So much so far for the prize system.

At the meeting of the Farmers' Club the other day, one of the speakers who modestly advertised himself as "the manager of the greatest horse show in the world," said, in so many words, that "prizes for horses were of no use whatever," and that "the Company which he had the honour to represent gave larger prizes for horses than any other horse show in the kingdom." Rather a *non sequitur* this on the face of it, as if prizes for well-bred horses are of no use whatever, how is it that men like Mr. James Howard, M.P., Mr. Robert Leeds, and Mr. John Clayden continue to give their countenance to such an absurdity? The manager, however, went on to prove his somewhat illogical position by an example: "The Royal Agricultural Society was once induced to offer an annual prize of £100 for thorough-bred stallions. What was the result? It led to the exhibition of stallions so valuable that no ordinary breeder could afford to use them. It was, in fact, like showing people very fine wine, and telling them to smell it. Once by a fluke, there being no competition, the £100 prize was won by Motley, the only horse of the Royal Agricultural £100 prize stallions that served mares and got hunters at a fee farmers could afford." This is unquestionably very strongly put, although such a statement is perhaps somewhat weakened by the assertion being at utter variance with the actual facts. The Royal Agricultural Society has now at nine successive shows offered an annual prize of £100 for a thorough-bred stallion, and on six of these occasions it has been won by horses who *have* served mares at farmers' fees, or at any rate some of them at a *less* price even than "the fluke" horse of Plymouth! With the names of such Royal winners as Laughing Stock, False Alarm, Carbineer, Neville, and Angelus before us—animals whose main duty has been with country-side mares, one can only wonder whether "the manager of the greatest horse show in the world" ever sees or hears of any show but his own—where, as we have always been ready to admit, the prizes for jumping, trotting, and driving round a saw-dust circle are monstrously absurd, or in the manager's own words, "of no use whatever." But, further still, "the manager of the greatest horse show in the world" is *not* the manager of the greatest show of the kind, as there were more horses entered at Manchester and Beverley, 1869, than there were at Islington in 1870.

"A show might afford opportunities for selling but would any one persuade him that when a man had one or two mares that he was going to put to the stallion he thought of what might happen at a horse show in three or four years?" So argues again, somewhat inconsequentially the "manager of the greatest horse show in the world," but surely the argument should be put all the other way. A man who is going to breed from a mare may think of what *did* happen at a horse show two or three years back, as it is really difficult to see why this should not be also "the means of educating the public, and teaching them to find out the good points [in a horse as well as] in a bull or cow." And of course it has done so; that is, where a horse show is properly conducted, as we shall fearlessly maintain that a visitor to a meeting of the Yorkshire Society might learn more in two or three days by the ring side as to the points of a horse than he ever could at a

fair, an afternoon on a racecourse, or a stroll through a large breeding stud. The very aim and end must be education, unless the looker-on be longing for jumping, or some such mountebank exhibition, with which the world is occasionally treated.

But as we have had implement trials without prizes let us at any rate see what a horse show would come to under the same conditions, and we have not to go far for an illustration, as this was offered at Ipswich on only Monday last, while this is the way in which *The Suffolk Chronicle* reports it: "No arrangement had been made for the reception of the horses, and the consequence was that the road leading to the station was crowded with company, which the passing cabs for trains found inconvenient, the cabs coming, in their turn, to be denounced as nuisances. Men jostled each other; and if two hot tempered individuals managed to have a fall out, either as a matter of temper or as a matter of business in the pick-pocket line, the public were compelled, by their unavoidable proximity, to participate, as spectators, in the quarrel. The only thing which found an easy avenue for locomotion was the ponderous horse, whose genteel footfall conveyed an unmistakeable intimation that, if not for the animal, at least for the spectators, he had better have a clear berth. On a future occasion we suggest that the name of the horse should be shown on a card attached to the head-gear, because the leaders are not always communicable, and when so are not very intelligible. These men, or some of them, share the importance of their horse. Asked whose horse his was, a man's words and actions meant this—'Well, if you particular want to know, I'll tell you as a favour: it is Mr. Robinson's; the 'osse's name is Duffer, as you are so werry pressing; and that I tell's you as a favour tu.' Unfortunately the Suffolk bumpkin action was restrained by his hands being otherwise engaged; else, of course, when bumpkin was asked the question he ought to have grinned 'good tidily,' taken off his cap with one hand and scratched his head with the other. We suppose there were about a score of horses on the ground when we were there and others might have gone on afterwards."

What an admirable lesson this must have afforded, what a delightful scene for the stranger, who did not happen to know every horse brought out. We ourselves were honoured with an especial invitation to attend, which acting on a certain presentiment, we did not accept. On Friday there was another Horse-show in the same county, at Woodbridge, where prizes were offered, and of which *The Ipswich Journal* thus reports: "We have spoken of the want of management at the Ipswich show, on Tuesday; at Woodbridge, it would have been difficult for the most hypercritical person to suggest an amendment. The Show and Fair were held in the field opposite the Seckford almshouses. A large ring was formed for the stallions, an hour announced at which they would be paraded and judged, the horses had all been entered, and the Secretary, Mr. W. H. Collins, had taken care to have lists printed for use of the bystanders, and to have each horse conspicuously numbered, so that anyone amongst the thousands that stood around could see at once what they had before them." Was there ever such a contrast! and shall anyone in the face of this say that prizes for horses are of no use? Why, such a means not merely tends to improve the breed of animals, but to ensure the comfort of the spectators, and to add materially to the respectability of the meeting. Breeding horses may not as a rule pay, but horse shows, as a rule, answer, not so much as tested by "the money taken at the doors," as by the practical lesson offered to the country,

SCOTCH FARMING.

BY THE NORTHERN FARMER.

On a lower level we come upon the Carse of Falkirk and Sterling; a tract of land possessing great fertility, although exceedingly heavy in texture and laborious to work. With fair treatment heavy crops of beans, wheat, and other cereals are grown, all being of best quality and weighing well to the bushel. Not very many years ago turnips were comparatively unknown on the carse, it being considered impossible to grow them profitably on land that required so much working. Of late years, however, the importance of this crop has forced itself on the notice of most farmers, and a considerable portion of the summer fallow is occupied with turnips. When successfully grown, this, like every other crop grown on land reclaimed from the Forth, weighs remarkably well, an apparently moderate crop weighing far beyond the same appearance when grown on soils of loose texture. Some roots shown in Falkirk last month weighed 17 lbs.—a large size on any soil, but more especially noticeable when grown on a farm where a few years ago it was considered impossible to raise turnips with any degree of certainty. The gradual displacement of bare fallows consequent on the introduction of the turnip, and its extended growth, has caused a visible improvement on those farms which have been so changed; more cattle are kept over winter to break down the straw into manure; and instead of the animals being fed solely on straw, as was formerly the case, and the life merely kept in them, they can, on the same farms, be finished for the butcher. It is worthy of remark that straw on such land as this is possessed of fair feeding properties, and a bullock fed solely on it for six months will go to the grass in good health although poor, while the same animal fed on straw grown on a brashy, loose soil, would, if he did struggle through, be so debilitated as to be almost worthless, or at best require the whole summer to recover his previous health and condition. West Highland cattle were at one time nearly the sole occupants of the yards during winter, the only others kept being a few Ayrshire cows for supplying milk to the family. The Highlanders were seldom the property of the farmer, belonging mostly to some extensive dealer or grazier who sent them to be wintered, and by doing so was actually considered to be conferring a favour on the farmer, although he may have paid nothing for their keep, or, at farthest, such a very small sum as to make the payment scarcely worth consideration. Now, however, the Highlanders are being displaced by what are locally termed flaked cattle (red and white), either bred in the higher districts of this and surrounding counties, or imported from Ireland, a regular and yearly increasing trade being carried on by established dealers from the northern Irish ports to Glasgow, from whence the cattle are distributed to every part of the country by rail. The farmers now for the most part purchase their own cattle, and with a better and more liberal system of feeding are enabled to sell in spring at a profit, even if they should be only in store condition, besides having their straw broken down and the manure of much better quality than could possibly be the case when the animals were simply straw-fed. Cattle are seldom tied up in this district unless when being fattened, the immense quantity of straw grown on a carse farm rendering it altogether unnecessary to economize in that article of produce. A large open yard, shedded on two sides of the square is the usual mode of

providing accommodation for store beasts, and no better plan could be devised for preserving them in a healthy growing condition, as they have the benefit of pure air and abundant exercise. Young cattle, when too closely confined, very frequently suffer from want of exercise, the joints becoming swelled, and chronic joint disease is too often the result of the poor things being compelled to stand in nearly one position for months together. The stackyards throughout the whole district from Grangemouth to Stirling are this season crowded with stacks, many of them of plethoric bulk, the crop of 1870 having been a very large one. They do not thrash out quite so well to their bulk as usual, but this is owing to the immense quantity of straw grown, rendering it an impossibility for the stacks to bleed well. Calculated by the acre the weight of corn is quite as great as the bulk of straw would seem to indicate. For valuable aid in forwarding agriculture and introducing improvements in the breeds of cattle and modes of economising labour, this district of Stirlingshire is largely indebted to the Earl of Dunmore, a nobleman highly and deservedly popular not only amongst his tenantry but also amongst agriculturists generally. The herd of Shorthorns at Dunmore Park promises soon to be one of the finest in the kingdom, having been selected with care and judgment and regardless of expense from the most celebrated stocks. A notable and much talked of instance of his spiritedness in agricultural matters, and desire to encourage every new idea or invention that gives fair promise of being useful on the farm, is the rather novel sight of a steam-engine working along the roads and across the fields, hauling dung, drain tiles, or whatever heavy article that requires to be removed; in fact doing all the heavy carting, and that with the greatest ease. It is an interesting sight to see this engine go to the tile-work, get loaded with about eight tons, return to the farm, go into the field about to be drained, and move up and down while the tiles are being distributed with as much facility as the ordinary horse and cart, the operation being conducted with even greater ease in certain states of the weather with the former than with the latter.

I now propose describing the working of a heavy clay farm, on which a regular rotation is recognised and regularly carried out, the whole of the summer fallow being occupied by green crop, a style of management which I consider the very *ultimatum* of good farming on heavy clay, and the man who does it with unvarying regularity must undoubtedly be ranked as a good farmer whatever may be his other deficiencies. To grow good turnips on light or medium land, there is certainly required a fair amount of care and attention, with moderately liberal treatment; this given, however, Nature generally does the rest, the crop seldom missing unless in seasons of unusually protracted drought. Growing turnips on a heavy, hungry, cold, and tenacious clay is on the contrary almost fighting with Nature, and unless carefully attended to during the whole of the cultural operations, besides manuring bountifully, a good crop cannot be grown, however favourable the season may be, the bulbs having a greater resemblance to apples in size than well-grown turnips. For a stubborn soil of this sort I leave the fertile carse, and choose one on the banks of the Clyde, also classic ground, being close to the world-renowned Bothwell

Bridge, where was fought the memorable battle between the King's troops with Claverhouse as one of their leaders, and the Covenanters. How badly the latter fared on that bloody day is well known to every reader of Scottish history, but it would be simply miraculous had the result been otherwise. On the one side there was discipline, organization, and brilliant and experienced generalship, while on the other there was little else but confusion, contradiction, and jealousy, fatally weak points, which all the ardour, patriotism, and undeniable courage of the stern Covenanters failed to overcome. On this farm the rotation is somewhat different to the carse land, and may be styled an eight-course system, and is as follows:

1st, Lea dressed with short dung and broken up for beans, the crop being magnificent, if the manurial application has been liberal; if, however, it is given with a sparing hand the crop is proportionately miserable, the permanent resources of these cold clays being excessively dormant. 2nd, Crop of oats, the land getting only one furrow on the bean stubble, with which a light preparation the crop both of straw and corn is very fine. 3rd, green crops, consisting of turnips and potatoes. If the season is propitious a strong effort is made to crop the whole of the fallow break; this however cannot always be accomplished, in which case the piece uncropped is worked in the usual way, the dung being laid on and ploughed in with the seed furrow a short time previous to the land being seeded. The number of cattle kept being considerable a loss of even three or four acres tells very severely in spring, an extra quantity of beans having to be ground into meal to make up for the limited supply of turnips. 4th, wheat: According as the green crop is removed the field is ploughed with a light furrow, the seed sown by hand, and harrowed in, the land being left rather rough than otherwise, for the sake of protection. The rough clods gradually dissolving under the action of frost and other atmospheric changes, the fine particles of soil get washed to the roots of the plants by the copious rains of winter and spring, by which they are greatly nourished and invigorated. Always providing that the manure has been laid on with an unsparing hand at the proper periods in the rotation, there is little danger of the wheat or other corn crops turning out badly. The clay does not absorb or eat up the manure so quickly as those soils which have an open porous bottom, and hence

its effects are more perceptible on the succeeding crops. The abundant *humus* in the soil forces plenty of straw. This secured, the grain follows almost as a matter of course, the clean corn on the barn floor seldom disappointing the expectations which an over-flowing stack-yard had raised. Farmers occupying weak brashy soils, in moister districts than that I am describing, have not always the same good fortune, as a heavy crop of straw is not always accompanied by a corresponding weight of marketable corn. On the contrary, when the straw is unusually heavy, it is apt to be weak, kneeling in the earlier stages of its growth; and if much rain falls just previous to harvest the whole crop becomes stretched as if a river had flowed over it, destroying all chance of a full crop, and disappointing the hopes of the husbandman at the very last stage of the ripening process. With this crop the land is laid out to grass, the surface being well stirred with a sharp biting harrow previous to sowing, to render it as fresh as possible for the reception of the small seeds, their success mainly depending on the freshness of the bed thus prepared. On this kind of land the plant of clover and ryegrass is often very weak on the removal of the corn, but if they have succeeded in making a regular hit, they soon recover, eventually covering the ground, and becoming strong enough to stand the severe weather of winter. 5th, hay: This crop is more irregular in its results, and less to be depended on than the corn, however well the land has been treated. Like the green crop the season requires to be propitious in every stage to make it a successful one for hay. From 1½ to 2½ tons is the usual weight grown to the statute acre, the latter weight being seldom exceeded, however favourable the year, and in an indifferent year the former weight is sometimes not even reached. 6th, 7th, and 8th years, pasture, which finishes the course. Sometimes when town dung can be had easily, and there is time to cart it, the grass is top-dressed in the autumn or winter of the seventh year, grazed as usual on the eighth, and again top-dressed before being broken up for beans, the result being a magnificent crop, quite capable in the cheapest years of clearing all the expenses incurred and leaving a handsome profit besides. 15 bolls is considered an excellent crop: this at 21s. 9d., the present price, and a low one, gives over £16 as the cash return from a single acre.

OVER MY PIPE.

Having hastily chewed a pickled onion and swallowed a single glass of sherry, I hastened back to my work. Reader, if ever you have scant time for luncheon on a cold day, adopt the above recipe and you will thank its author for it. While it temporarily but effectually allays your hunger, you will find it warm your system through. I remember many years ago attending, amidst an awful throng, a midnight service in a church at Rome. At the very moment, when between the stifling heat and the inhuman pressure one felt completely done, in nasal accents from the long throat of a distinguished Yankee, who occupied the post of rear-guard to me, there came the inquiry, "Guess you'd like a cup of tea?" There is no denying that I immediately assented, without dread of possible assassination from one whose bony frame must have found a grateful relief in having so well-cushioned a person to lean against. "Like a cup of tea! Certainly, if you please." And as a nurse does to an infant, or a keeper to a marmoset monkey, he dabbed a lozenge into my expectant lip enclosure. "Thanks," I spluttered,

and immediately thereupon there commenced such a resolution of primary elements. The little hard concentrated cake dissolving gradually, communicated to my dry palate the refreshing flavour of that most aromatic compound we call "tea," cream, sugar, and all. Voluming gradually out, as a wreath of smoke above the discharged field-piece, it seemed to permeate and pervade every part of one's system, sending the blood back from the brain, and bracing the nerves exactly as a real draught of the imitated beverage might. Thanks to that tall Yankee for the refreshment and comfort he gave me; the like of which I expect in turn from all who shall avail themselves of my own original above-mentioned specific for intense hunger on a frigid day.

Over my pipe! Well, then, what's the first reflection? Why, simply that I have drifted very far away from all agricultural subjects excepting that onions and grapes grow in fields, of either Egypt or Italy. This cup of tea had an immense power of flotation, but by dint of exceeding energy I must recover my moorings.

Reflection, therefore, No. 2. Why, simply that I shall be glad when all these youngsters have gone back to school.

Reflection No. 3. This winter and the condition on their return from school of these said youngsters have taught me a lesson I shall not forget. With the scantiest possible provision in my rickyards, so scanty in fact as long since to have brought down upon our establishment ridicule from some, and, what was worse, unsolicited advice from others, we have managed after all to disappoint the predictions of the *cornices sinistrae*. Our boys came home with clear complexions and fat cheeks. They return pallid and puffy to school. The fact is, they thrive upon regular and measured meals. They get out of sorts upon a wasteful glut of plum-pudding, goose, beef, turkey, pears, roast chesnuts, and mince-pies. We have astonished three keen and scornful judges by an inspection of our folds. Sawdust to lie on is not pleasant to the eye, nor straw and gorse chaff in the mangers. But the heifers, cows, and calves are all fat and glossy. If we don't make our wheaten straw help us in the future to recoup the losses of the past, then our present resolution will not hold. A few spadefuls of must, left beside the cider-mill, thrown into the heap accumulating under the chaff-cutter, and heated by a pipe of the waste steam sends forth a teeth-watering fragrance.

Reflection No. 4. Those lambs that have fallen must have been considerably astonished on their introduction to the outside world during the last ten days. Housed, however, at night, when their dams have a good feed of crushed oilcake powder and meal, and let out on a bank of rowen during the day, they look amazingly happy, and I doubt not our admiring youngsters would be glad to change places with them until Easter (when their respective fates are very different), instead of having to return to the mercies of the Educator next black Monday. Very different is the song to-day about the passages from what regaled our ears a few weeks since with the delicious refrain :

"No more Latin, no more Greek,
No more cane to make me squeak."

Reflection No. 5. In unconscious reproof of my hard-hearted parental reasoning and declaration, a little girl has just brought in some slices of an orange from the green-house, with a whole plateful of brown sugar to modify its "bitter taste." It so happened that our one tree bore fruit in the exact number that our children are. They had consequently one each presented to them by Mr. Melon, and reserved until the last week of the holidays for enjoyment. How often we tell and try to convince our labourers how much more really happy their condition is than our's, the employers; for the many reasons that they have comparatively so few anxieties, so long as they conduct themselves well, so much being provided for them in the way of help over and above their wages in the shape of clothes, fuel, medicine, &c., while the larger their family the more pay they receive: in due course, moreover, each member, as he or she grows up, dropping over the nest to find an independent occupation and sustenance; and even furnishing retributive help to the parents when their heart is in the right place. "Better is a dinner of herbs where love is, than a stalled ox and hatred therewith," are words of wisdom which often recur to us as we watch the soil-stained labourer seated by his fire-side with the little ones clustering around his knee, on which some more fortunate one has been able to secure his triumphant perch, and the mother is cooking the potatoes and cabbage for supper just flavoured with dripping or a bit of "pig meat." A crust and watercresses for luncheon, with a draught from the spring affords more real refreshment (leaving no

bilious wretched results), than often times the venison haunch with turtle soup and crusted port do. This reflection (which of course no labourers endorse, since "man never is but always to be blest") has been brought about by our repeated observation of the delight that solitary orange tree has afforded our circle so long; in fact, a full earnest share of purest Mediterranean enjoyment, through first its flowers and then its fruit, much more probably than the nobleman receives from the whole grove which his half-acre of glass encloses, not to mention the relief which the lesser expense and consequent care guarantee. The clever, well-cared-for, pony gives as much gratification to its owner as the stud of horses. Happiness, in fact, hangs about upon every twig, if we only determine to see it.

Reflection—(lost the count now, and my pipe is nearly out). It is hard lines, that this severe weather should have returned. I just found the rooks boring into the delicious interior of the swede bulba, while the wild pigeons are legion in the vicinity of the pheasant food, and upon my honour (I thought at first it was one's piebald whiskers one got a glimpse of) only fancy a pair of magpies, too, taking fearless advantage of the store! All's food that comes to the net with them, I conclude, as with any other pilferers. Talking of that, the children towards the finish of the late frost got their skating ground mangled by some poaching rascal, who discerned and stranded salmon through a foot of ice, and took advantage of the dark to mine it out. After a flood, with severe frost following, they are found not un seldom in the ditches of the meadows that adjoin our river.

No one who has ever commenced the use of steam-power upon his farm would ever do without it again. Astonishing was our inconvenience lately, when, owing to a leak in the boiler necessitating repairs, we had to stop a team regularly at mid-day for the purpose of chaff-cutting or pulping. And no one who has begun with a small engine but would be sorry that he had not while about it invested in a fair-sized one. Mr. Mechi's remarks on this subject, long since published, we now feel to be thoroughly correct. An enthusiastic neighbour, who had had too some experience of steam while at college, invested in a small second-hand engine the other day with which he managed to cut up his small stuff at a rare pace. Unfortunately, one day he took to exhibiting the same, some ladies having honoured him with a visit, when he managed to blow the safety-valve out, and the windows had to be smashed to allow of the affrighted fair ones' escape. So

"Beware, young men, of a musical valve."

Having re-lit, it strikes me that it is not for the farmer to speculate. I have just heard of a man who will have to pay five pounds hire for bags in which his corn has stood waiting for the rise of the market. The victims in this district through holding their wool have been numerous. One is said to have refused 2s. 3d. for a lot which he afterwards sold at half the figure. Talking of wool makes one think of one's head, and thinking of one's head at our time of life leads to thinking of thatch, and thinking of thatch leads to thinking how we shall manage, having consumed our straw, to cover our hay-stacks this season, which we mean to be numerous. The thought strikes us; we will carry out our long projected plan of felling a couple of plaguy hedgerow elms whose long extended claws drag out the sustenance from the adjoining soil for yards into the field. These, sawn into thin slabs, will provide us with the means of making a permanent shed to lift up and down within pillars, upon the Lancashire plan, according to the

depth of crop; so out of evil shall come good. But as to the intended abundance of meadow hay; what mean we? Why, last year, being over-persuaded, we allowed the grazing of our land until March if not April, being assured by the natives that the crop along the river would not suffer in the least thereby. But it did though. Dwarfed and stunted by this too harsh treatment, it scarcely so recovered in places as to be worth cutting. This year no ewe nor lamb goes upon the ground; and what a top-dressing it shall have through its harrow-shaken crevices, under guise of guano, wood ashes, earth mould, and the like! The straits to which we have been put since August last ourselves have been a top-dressing which our wits shall not forget.

"We have been working like donkeys, sir, all the morning," old Melon remarked to me just now, as I found him blowing like a grampus, and mopping his extensive brow. This remark had reference to himself and his assistant. But upon it may be based some reflections. Could he mean that they had been working reluctantly with their ears put back, and discharging an occasional quick kick round the corner at their nearest attendant? Or did he mean that like the poor faithful little thing, that you see occasionally in the small cart with wheels rut-imbedded, they had been struggling against hope in patient endurance? Just so I expect, for the employment in which they had been engaged was wheeling some great stones from a distant wood for the adornment and furnishing of a new fernery upon which the Missus had set her heart. However, donkey or not—whether Mr. Melon may have fairly compared himself or not—certain it is that I don't mean to go on much longer without the aid of one of these trustworthy carriers upon the farm. Standing about just where they are placed, in harness and the shafts all day, they are at everybody's beck and call, to do their ready service—whether the cowman may desire his feeding hampers hauled to the distant sheds, or roots brought in, or a small additional cut of best clover-hay for the Sultana of the day, or a package for the housekeeper fetched from the town—"ready! aye, ready!" is the motto of our obedient, industrious friend. A very different sort are they, however, from the donkey of the desert. A friend of ours, who has been sent to Suez as an invalid, and who was used until two years since to lead the hunting field through bullfinches and over brooks upon gigantic weight-carriers, is now reduced to conveyance upon a Cairo donkey; but he writes in raptures about them. The one he has purchased for himself prefers cantering to walking: hear that, ye, his English congeners! and beats any poney, he says, that he ever owned in his "ain countree." The same gentleman writes in wonder at the exceeding strength of the native porters who live on nothing but beans—a sort from which some patent pap is made in England. One instance he mentions of a load being carried by one of these men fifty yards on to a vessel, the captain of which immediately weighed it and found it seven cwt.! This sounds incredible, but our informant is not given to romancing. To slip, however, from Cairo to the Cape, we have just letters from another friend, who had been for some months hunting, and who during September and October last arranged to have the oxen belonging to some half-dozen waggons fed and tended for the period in consideration of the Kafir Chief's receiving a knife and a pair of sheets! Only fancy that, when we in England were stinting and starving to the lowest point of safety.

But this brings me to a new reflection. The hard winter months seem so rapidly waning, and the soft air of spring so near, that the holders of hay are becoming alarmed, and in Carnarvonshire lately we were offered

plenty of the most fragrant quality for £4 per ton. The unreasonable charge for railway carriage, however, would add another £2 the ton to this.

By the way, one word of caution to the farming youngster who may desire to dabble with steam. There is no possibility of persuading the men that there is any risk whatever in the management of an engine, and there is difficulty until they have had a fright or two in keeping an occasional amateur from trying his hand when the engineer's back is turned. During the frost our bailiff deservedly got a "scalding" rebuff, through the action of a half-frozen pipe, through which the steam could not force its way as swiftly as was desirable. I do not think he will repeat his experiment. But, worse than that, we had nearly a bad accident. I had taken the regular attendant away to inspect some machinery; on our return, we could hear from the road a tremendous fuss going on in the engine-house. Fortunately the carpenter had heard it, and rushed in and raked out the fire, else I don't know what might have happened. A stupid lad who helps in the feeding, thought to be mighty grand and get the food already cut and pulped and steamed during the engineer's absence. As the steam arose he of course got flustered and lost his head, whereas the steam made head, and finally blew up the safety-valve, thence escaping in dense, angry volume. The lad got such a mortal fright that when it came to the push (as he is otherwise a good fellow, and in fact got into this scrape from an over-desire to show work), we could not find it in our heart to sign the warrant for his dismissal. We shall now be able to keep all parties but the regulars from intrusion on the dangerous premises. Hitherto one could not persuade our folk that the engine was aught but a delightful toy. It had really been well nigh a serious affair, but it is likely to be the last attempt at such freaks. It has become a positive wonder to me how it is that one does not hear of more frequent accidents than we do. I remember now, although it never struck me then, a Staffordshire gentleman, an exceedingly clever engineer, who never could, even to the last (and he was an old man) hear without an involuntary shudder the "thud, thud" of a high-pressure engine at full pace.

But let us to less exciting topics. How singular is the spread of epidemics! How absurd that, go where you will of late over England, you meet everywhere somebody complaining of boils or winking with a sty in the eye! So too of cattle disorder. The *Illustrated London News* gave us recently a specific for lice on cattle; since that I have noticed and see everywhere the uncanny look upon the cattle which indicates the existence of this pest. Whether done well or badly, whether their hair be dry or reeking with moisture, there is still everywhere the same unpleasant, scurfy look. It must assuredly be in the air. Goose-grease, well rubbed in, astonishes the animalculæ, while it promotes the growth of the new hair. Sawdust, like all other forms of litter, seems to have risen to a premium; else while the animals repose on the supply of this stuff which larch and the fir-tree tribe generally yield keep completely clear of this nuisance. The smell of turpentine don't suit them—it either drives them next door, as the smell of puss sends the mice, or it doubles them up to die as they inhale it.

It is very sad to see how the starlings died everywhere during the hard weather. Down upon the flower-beds under the rain spouts, or amidst the straw in the lofts they turn up everywhere, seeming to have suffered more than any other bird that flies. We shall still have enough left I hope to comb the sheep's backs and gurgle their all-absorbing love-song upon the roof-ridge. Only in one instance do I quarrel with them, and that is, when they will greedily try to get possession of a hole in a willow

ree upon the lawn, which our household regards as the sacred property of the nuthatch. But they soon take the hint that they are not wanted there. Let them only be caught once or twice in a horse-hair noose, and after a fright be released, they will soon then cease to annoy. Blessed spring, with the tuneful birds' songs and the sweet-scented bursting buds, how soon it will be bursting upon us now. Oh! that it may infuse a softening influence into the hard Teutonic breast, while it re-inspires with hope and energy to repair her places of spoilt loveliness the too sadly crushed capital of France!

The good old-fashioned winter we have gone through has enabled us to comprehend how much we are indebted to the frost for an increase of soil upon our fields, where the ploughing has been done in due time. The up-turned subsoil, with its occasional flakes of rock, instead of being hard and harsh, lies now in lumps of finest sandy material, which the first touch of the harrow will spread, intermingling and refreshing the old worn bed. Especially is this to be seen in the coarse conglomerate of sandstone and lime-kernels which form a layer of our old red formation.

Being excessively attached to the famous black diamond pigs, one is glad to have one's approach to their habitation made endurable if not pleasant. The cleaning out produces an unpleasant atmosphere, for which, however, there is a certain cure. Get the cook to store for you the wood ashes from the brick oven in which the bread is baked, and therewith have the damp flags dusted. It deodorizes at once, and were your eyes shut you would never be cognisant of the proximity of your pets' abode. As unhappily the sty, however palatially built, is not redolent of heliotrope or wood violet, this infallible specific is worth adopting. I wish the authorities of the Royal Show-yard would take a hint therefrom. I have mentioned it, but vainly, to some of them. If they would but have a layer a foot thick of burnt clay or wood ashes beneath the sod on which the pig pens are erected, the visitors would be no more repelled, as they are under existing circumstances, by an unsavory odour, from the delightful contemplation of a beautiful animal.

Just reminded—I must go and look at my pet quick-set hedge which was planted so carefully two years since in a trench half filled with fine mould on a deep bed of rich rotted muck. It has begun to find the full benefit of this comfort at foot, and the shoots spring amain. But the surface is choked with tangled grass, which has to be carefully cleared away soon now. One of my neighbours persists in allowing his young quick fences to be grown up with grass, the consequence being that during half-a-dozen years I have scarcely seen any improvement in height, besides that many of the plants have died out at the base. In Suffolk some years since I knew a shrewd farmer plant young oaks in the fence banks at intervals of fifty to a hundred yards. They come in very handily for hurdle heads and stakes of general service, without doing damage to the adjoining crops as an elm would do. Their idiosyncrasy is different. Whereas the oak goes deeply down, doing its best early in life, to get a substantial hold, and justify its solid character as the tree of Old England, the elm idly spreads its roots abroad, greedily finger-like picking out and pocketing what's nice in the soil as a child the comfits on a seed-cake.

Of this variety of disposition you may observe abundant illustration on any shelving bank in a woodland district where the frost has undermined and caused to break away the enclosing soil from about the root-mass. There is always something on the face of nature to amuse and instruct. Whose life so enjoyable as the Naturalist's? He that hath eyes to see let him see. Will the taste for horse-flesh spread to England, I wonder? for there must

be many of our countrymen and countrywomen in Paris, who by the necessities of the siege have got habituated to the food. It would be a great thing for us farmers if a colt could be made valuable for steaks and sirloin, even though it have sprung a sinew or got a spavin unfortunately established. Mr. Buckland's report that the flavour of this viand is suggestive of the scented air when a bunch of hunters are pulled up at a check, will perhaps operate against our hopes. Only fancy how it would help us in a bad year like the past if instead of knocking the old cart-mare on the head, and consigning her carcase to the vine border, we could have her carried to the larder as "stock" for the cook. Would some skilled astronomer kindly tell us whether or not we are to suffer again this season from the terrifying influence of the comet? because it is high time to be prepared. I for one shall (instructed by the past season) not attempt the growing of stubble turnips; I shall, moreover, let the grain crop have grown sufficiently high to afford damp shelter before the clovers are sown, and shall endeavour also to get the barley ground finely pulverized beneath, but left cloddy a-top, the only successful "seeds" in this district having last year owed their success to such treatment.

The lion he hath spoken; he hath roared the whole night through. And now we can only humbly hope that he will finish as he ought, and depart as any sucking dove. "In like the lion, out like the lamb," as another familiar saying hath it; so should our March behave. Last night, when we had fondly anticipated being soon wrapped in balmy slumber, it was not long before the words of the imaginary sailor, in the popular ditty, were realised:

My eyes! what tiles and chimney-pots
About their heads are falling!

Then, when the morning broke, there was only a sulky gray tint upon the sky and scene suggestive of repentance or remorse; but when the school-room dinner-time arrived, how it did pour! great flaky rain—half sleet, half fluid—which made the pretty lambkins hurry under the overhanging hedge-bank. My first visit, when I could get out, was to the field of autumn oats which they and their dams were pasturing; and then I found very soon that my tremors for their safety had been quite superfluous. But there is an extra reason for being delighted; for a friend hath unexpectedly sent me a sweet Meerschäum, which I have already in an hour heated thrice. "Too hot to last, gentlemen:" as Wellington observed of the cannon pounding at Waterloo.

What a curious clever thing is the drainer's eye! One whom I have occasionally employed called here just now, on spec, and took me and pointed out certain hollows where the water must obviously accumulate. Now we know their whereabouts—a fact we should never have detected by virtue of our own unaided vision. But what is the corollary? Why that really, this year, I have no money to drain with. Am I not run dry myself? And, in the second place, would that my hearty friend would find out about me some hollows where the cash is too strongly effecting a lodgment!

How sly, and I may add ungrateful, these botheration rooks are! or, rather, the jackdaws, you may suggest. Well, but if rooks will allow jackdaws in their company they must not be astonished if they be credited also to some extent with their disposition and deeds: "Birds of a feather flock together," says the proverb. In a canter over an outlying farm which I rent just now I found an intelligent little fellow, or rather, to begin with, I heard him cutting about under the fence. I asked him, as he happened to come close to where I was opening a gate, "Isn't it near dinner time?—what time do you dine, my boy?"

"Twelve o'clock, sir."

"Well, put it past that half-an-hour."

No reply; only an innocent look, as I saw him with the gradual fall of his eye-lash just taking what I felt to be quiet stock of my countenance from hat-brim to chin.

"Where do you dine?" I added thereupon, much upon the plan which young barristers adopt, not looking for any answer in particular, but just trusting to accident, as one hits an outlying briar-bush, not a bit expecting the 'old cock' who flies out with such a terrific startling sound."

"Under the hedge there."

"Aha! then you have dined?"

No reply—the innocent at bay. Well, then, to return. I found "this 'ere" intelligent young man cutting along under shelter of this fence, and down again under that—then up the middle and down again—and yet for all his demonstration and noise the pestilent old crows would keep there still. "Industrious, anyhow," one remarks inwardly, trying to find some excuse for their villany—some salve for our sore. But no; these crafty gentlemen of the air did condescend to rise, seeing he had no fire-arms, and they detected no scent of powder, when he came harrowing up with shrill cry the lining of his gullet quite near to them; and they flew righteously enough away too; but he had scarcely turned upon his heel; he had not certainly turned in his trousers pocket, contemplatively calculating, as is the wont of youth, the last night's winnings of his taws, when they elegantly wheel at single signal of one rogue left in a tree, quite hiding, no doubt, behind this branch during the term of my vicinity. They copy the lad's manoeuvres to a T—I think that's the way to write it—but what it exactly means I must acknowledge I don't know—our sentinel I mean: they copy him exactly. They go as he bids them, quite earnestly, if noiselessly, away; they wheel softly, but steadily as Uhlans, they meet the wind, they lower, they soar, they float, they go a downward drive, they are only exercising after all; it is their regular drill they would have you believe; so they continue to perform with such an airy unconcern, until suddenly, as a bolt, they are down the very minute the lad has descended just below the brow of the field, and can no more command a sight of the hill top. Down—down they are, but not among the dead men; nay, rather amongst the fresh, second-planted, corn, the very remembrance of the necessity for which drives us half distracted. Down they are, thick as currants in a Christmas pudding, or fleas on Patrick's vest; and if they don't do me a world of mischief this very afternoon, why then my name's not a prophet, and I shall be agreeably surprised.

Don't give them a chance, boy; that's the advice I would give my son, and that's the advice I give you heartily, young agricultural shaver. Don't give them a chance, boy. Why, what do you mean—the rooks? No, no—the money-lender. I have just seen a poor fellow in such a hobble, I am bound, though possibly Cassandra-like, to raise my little voice to swell the parental outcry. If you want to keep up anything like buoyancy of spirits, to enjoy happy working in the morning and no dyspeptic waking during the midnight hours, then resolutely determine from the first to live within your means. If you have only a shilling a day live on tenpence. Herein lies the first element of happiness. No circumstances can satisfy when debt is sucking at your vitals. The debts of youth are an increasing millstone about the neck of middle age. It's for all the world like billiard-playing. "I learnt my game by observing the flukes made by gentlemen who played at my table" is the revelation the elder Roberts made as to the mode in which he attained his marvellous skill at this now most fashionable game. By the way, before we leave the subject, give the old fellow his due. Although he has been compelled, as all old stagers must, to give up his pride of place to a younger animal, let us not forget that the winner's name also is Roberts. In a future Grand National, if some Brosely Tile should happen to win first place, don't let us deny the main credit of the matter to his true-hearted and clever old sire, The Brick. In billiard-markers, as in hunters and steeplechase winners, the finer qualities of muscle and stylish action are beyond a doubt a good deal inherited. And this brings us back to our point—the point from which we started; namely, the assertion that successful horse-breeding, like successful billiard-playing, depends in a great degree upon keen and careful observation of the manner and failures, and casual good fortune of others. Mainly the last item, otherwise "the flukes."

Our limit is short now, and already we hear the postman in the distance; but another day hope to throw our pebble to swell the cairn which was so handily built at the discussion at the Farmers' Club the other evening. Cairn, I deliberately write. For will not the whole discussion fall to the ground if it look for government aid? I fear so, though I hope not. It was, as reported, a most interesting discussion; but it must have been a pleasure to listen to it. A troop of artillery came through our small country town yesterday, *en route* for Wales, astonishing and delighting the gaping mob, both male and female. I had a careful inspection of the horses in the inn-yard. We could not buy such here for £40 a-piece. Postman summons.

THE LAW OF HYPOTHEC AND DISTRAINT FOR RENT.

At the opening of the year, when speaking to Mr. Mechi's approaching lecture on how to hire and how to let a farm, we dwelt on the necessity for some proviso, whereby in the event of things going wrong a tenant's other creditors would be put on as good a footing as the landlord; as, of course, we went on to intimate that the interference of Parliament would be required to revise the law of distress for rent. And on Wednesday—on one of those off "mornings" which are pretty generally considered good enough for any agricultural business—this question came before the House of Commons. As it stood the subject for debate was the Hypothec (Scotland) Bill, but it quickly came to be seen that hypothec on the other side of the Border was very much the

same as the prior claim of the landlord in England. In fact, Mr. Carnegie in the outset, quoting from the Lords Committee, very honestly determined that there should be no mistake about the matter: "The main difference between the law of hypothec in Scotland and the law of distress in England consists in this—that in Scotland the landlord has the power of preventing the tenant from disposing of his crop before the rent becomes due, whereas in England he has no such power;" while the honourable gentleman added on his own responsibility that "the two are very nearly analogous. There are some differences between them, and I am perfectly willing to admit that every argument that is used against the law of hypothec in Scotland in the main applies to

the law of distress in England." Here is clearly something to go on, as here again we come face to face to still the most important feature in the development of agriculture—the employment of capital. Mr. Mechi, no doubt, will tell us in May that the land yet languishes for lack of sufficient means, that the average amount invested per acre is far below what this should be, and that the soil and its occupant starve rather than flourish alike from the same cause. Then, we shall find that the want of security, a habit of dealing in defiance of business-like principles, and of allowing the landlord and his agent to do very much as they please in making terms, must necessarily tend to keep the best men aloof.

And the law of hypothec or the landlord's preference claim works more certainly than anything else to this end. As Mr. McCombie, the only man who spoke up as a farmer on Wednesday, said, "it creates a fictitious value in land, and allows the proprietor to accept tenants with little or no capital. Such persons instead of farming the land actually scourge it, and in a few years hand it over in an exhausted state to the landlord, who again relets it to another tenant, very likely of the same description. There is not half of the capital invested in land in Scotland that ought to be, and the land is not yielding above two-thirds of what it is able to produce." So spoke out the farmer member for Scotland, and yet Mr. McCombie did not speak quite so plainly to the bad practice which has emanated from this bad law. In Scotland farms are frequently let by tender. Holding the hypothec like a drawn sword in his hand, the landlord cares little for the character of the tenant so long as he gets a high rent. He has the other ever at his mercy, and can cut him down at a moment's notice. Thus the small means of the needy man often become smaller still. He can command comparatively little credit, as every blade of corn he grows is already made over. In England it has scarcely reached to this, although we have seen an agent hooted out of a room from having introduced the fashion of letting by tender, while we have heard of a man down Gloucester way who, in the first instance, denounced the practice at a public meeting, and then apologized to a landlord as meaning nothing "personal" to anyone who might countenance such a proceeding! Nevertheless the effect of so unfair an arrangement is very much the same even in England. Many a good man, who has started prosperously enough, has been beaten before now at farming, as the experience of the last two or three years would go to show. And when the times are against him, when he wants a little assistance, or a little longer credit, he stands in a very different position to any other trader. His rent, instead of being a mere tithe of his expenses, is often equal to all his other outgoings; and from the very nature of his occupation no man's circumstances are better known. Thus, if friends are inclined to help him they do so with their eyes open to more than ordinary risk. Under pressure the shop-keeper will, as a rule, be able to get more goods without paying for them, and so tide over the bad time; but the cattle dealer, the seed-merchant, and the implement-maker can only accommodate their customer in such a case at a far greater sacrifice. When the crash does come, the landlord steps in and takes everything he pleases, and the other creditors divide the little or nothing that is left amongst them. Under such a system many a man has been ruined, who had he been a butcher or a baker might have pulled through.

During the debate an attempt was made to hoodwink the actual question, under a plea of sympathy for the small farmers. If the prior claim for rent was abolished, the small farmers, that is, the men of inadequate means, would find it difficult to obtain possession of holdings.

But when duly interpreted what does this plea come to, but that these small men in reality go into business at other people's expense? The crop will ensure the landlord, and if it be a good one will, perhaps, pay the other people, or if not these other people are the sufferers. Mr. McCombie's facts, however, at once disposed of even this argument: "The large farmers, the small farmers, and the crofters of Aberdeenshire, numbering 2,481, signed a petition in favour of the abolition of the law of hypothec, and I believe the great majority were small farmers and crofters."

The Lord Advocate on the part of the Government regarded hypothec "as untenable, as an exceptional and highly artificial law. It is a privilege in the strictest sense of the word, and a privilege of landlords, because it is a peculiar law in their favour which does not exist in favour of others. In my opinion there is no good reason for a distinction between one class of creditors and another." This is strongly put, especially when we remember that it is put officially. Nevertheless, in a House of some scope the Government was thoroughly beaten. And why? Simply because this was a merely agricultural matter, or nothing more than a farmer's grievance at most. If the question had touched in any way on the interests of the townsman, the tradesman, or the merchant, the Government would have known well enough that the loss of the Bill would in all probability have been followed by the loss of place; but as it was only the farmer, and as of course the Farmer's Friends as usual went dead against him, the majority one way or the other could be of little consequence. Mr. McLaren opposed the Bill, Colonel Corbett opposed the Bill, Mr. Pell and Lord John Manners voted against it, and Mr. Sewell Read made no sign, for he never voted at all.

And here arises a very pertinent question. The Scottish Chamber of Agriculture has declared against the law of hypothec, as unfair to the farmers, and of no good to the landlords; and sooner or later no doubt the law of hypothec is doomed. But how as to the English law of distress for rent; is this also unfair to the tenant and of little good to the landlord? At any rate it is surely time that the subject were fairly faced here also. We will not go so far as to say that Colonel Corbett and Mr. Pell, leading men at the Central Chamber of Agriculture, would uphold the law of distress for rent, but it would be quite as well that their opinions as well as of other honourable gentlemen who frequent those meetings should be ascertained. Nay! the very farmers might be invited to offer expression thereon, so that when any question of the kind ever again came before Parliament the English Chamber, like the Scotch, might really be able to say which way it was going. So far this is not quite so clear.

Since writing so far we have had the opportunity of looking through Mr. Jenkins' paper in the new number of the Royal Agricultural Society's *Journal* on Scottish Agriculture; and here in the very outset the editor of the national Society's own work speaks to the abuses against which we have been protesting. "Unfortunately," as he says, "the Scotch system of leases labours under the disadvantage of being hampered by two important drawbacks. One of these is known as the law of hypothec, analogous to our law of distraint, and the other is the custom of inviting tenders for farms, the leases for which are drawing to a close. In Scotland, as a broad general rule, when a farm is to be let the highest bidder becomes the occupier, unless anything serious is known against him. The landlord is sure of his rent, owing to the law of hypothec, and therefore he is often more careless in his inquiries as to the capital and reputation of the tenant than the English landlords are under

a system of yearly tenancy. Two results follow: firstly, a large proportion of farms are over-rented; and, secondly, a comparatively small proportion of tenants 'sit out' their leases." And, further on, "A man of straw, with nothing to lose, will bid an extravagant rent for a farm in good condition. The hypothec law has no terrors for him, and he can at any rate get a few years' living out of the farm. On the other hand, the landlord lets the farm

resting on the security of the law of hypothec, and not unfrequently he is said to obtain his rent at the expense of those who have given 'credit' to the farmer on the strength of his being the occupier of a certain number of acres." What will Mr. Pell, and Mr. McLaren, and Lord John and Colonel Corbett, and the other FARMERS' FRIENDS in Wednesday's majority say to all this reasoning—of the Royal Agricultural Society, be it remembered?

THE WATER WE CONSUME.

BY CUTHBERT W. JOHNSON, F.R.S.

It is only within a very recent period that we have paid a due attention to the water we consume, although other important sanitary objects have not escaped our attention. But those, such as pestilential emanations and neglected house drains, forced themselves upon our notice by their ill odours and by the diseases they produced—the ill effects arising from bad water were rather less prominent. And yet we were ever a little inconsistent even in this matter; we noticed the influence of hard water upon our horses; the trainer of race-horses was careful to provide them with clean and soft water, even took the pains to carry water to distant race-courses when he feared that soft water was not there obtainable. He would infallibly reject for this purpose the water with which the citizens of London and some other densely populated places are supplied. Indeed, as I had some time since occasion to remark, an attention to the cleanliness of live stock has been long known to be one of the most rational means of promoting their health and the profit of their owners. The idea once entertained that the quality of the water consumed by the horse, or the cow, or the pig was of little moment, is now rapidly exploding. That clean water is to be preferred to foul, even for the beverage of a hog, is now pretty generally understood, even in those precincts of the metropolis where the true principles of health are more studied in cow-keeping or pig-feeding than in the preservation of their owner's health. Even animals have an instinctive knowledge of these things, for, as it was well said by Professor Lyon Playfair in a valuable report of the Board of Health, horses have this knowledge in a remarkable degree; they love soft water, and refuse hard if they can possibly get the former. Hard water, indeed, produces a rough and staring coat in horses, and renders them liable to gripes. This, too, was noted by one of the most celebrated of modern veterinarians, the late Professor Youatt. Cleghorn states that in the Island of Minorca, hard water causes diseases in the system of certain animals, especially of sheep. It has been also observed that pigeons refuse hard water if they can obtain access to soft. The preference which the horse very commonly shows to pond water rather than to that procured from a well or a river may often be explained in this way. The water of ponds is very commonly merely composed of the water which flows into it from land or surface drainage, which water, contrary to the generally received and apparently reasonable opinion, is upon an average much softer, as more free from the salts of lime than the waters obtained from either wells or rivers. Some late examinations instituted by the Board of Health have shown this in a very remarkable manner. "The observations collected under the Public Health Act of the comparative purity of different waters, appear to us to establish the axiom, that the shorter the space of land which water has to traverse, or the shorter the time which it remains upon it, the less

will be the quantity of adventitious impurities which it will imbibe. We have had 424 different specimens of water from different parts of the country tested, and we find that in respect to hardness the following are the results—[a degree of hardness is equal to about a grain of chalk per gallon of water]: 1. Wells and spring (264) specimens) had an average hardness of 25.86. 2. Rivers and brooks (111 specimens), average hardness 18.05. 3. Land and surface drainage (49 specimens), average hardness 4.94." We see, then, in the case of live stock, how material an effect is produced by the hardness of the water upon their health and appearance. In viewing this in connection with the economy of domestic life, some useful and, when, considered in connection with the supply of populous places, startling phenomena present themselves. In fact, as is remarked in the report to which I have alluded: "The importance of this mineral ingredient (chalk) is only to be correctly estimated when viewed in the aggregate; when 16 grains per gallon in the day's supply of the metropolis (equal to 90,000,000 gallons) becomes 52 tons of lime, which we find affecting every domestic operation, and see accumulated as a coating in kettles, in the pipes of baths, in the boilers of steam-engines, destroying 25½ oz. of soap in every 100 gallons of water for each degree of hardness, or single grain of lime contained in a gallon of water."

For cattle, too, as in fact for all domestic animals, the water can hardly be procured too soft and clean, and yet in practice, how commonly is the watering of live stock disregarded! Notice the ponds, or rather cesspools, saturated and putrefying with all kinds of organic matters, to which many a poor animal has only access in a field, or in a farm-yard—places into which all the drainage of the enclosure has access, and which is so approaching in quality to liquid manure that its owner perhaps is seriously considering the expediency of carting it on to his land, or pumping it on to his compost heaps. Consider, I say, these things, and then ask yourself whether a better supply of more wholesome water cannot be readily obtained for your live stock than such water as this. When speaking of the farmers' management in these matters, Youatt says: "He lets his horses loose morning and night, and they go to the nearest pond or brook and drink their fill, and no harm results; for they obtain that kind of water which nature designed them to have, in a manner prepared for them by some unknown influence of the atmosphere, as well as by the deposition of many saline admixtures. The difference between *hard* and *soft* water is known to every one. In hard water soap will curdle, vegetables will not boil soft, and the saccharine matter of the malt cannot be fully obtained in the process of brewing. There is nothing in which the different effect of hard and soft water is so evident as in the stomach and digestive organs of the horse. Hard water, drawn fresh from the well, will assuredly make the coat of a

horse unaccustomed to it stare, and it will not unfrequently gripe and otherwise injure him. Instinct or experience has made even the horse himself conscious of this, for he will never drink hard water if he has access to soft; he will leave the most transparent and pure water of the well for a river, although the water may be turbid, and even for the muddiest pool. He is injured, however, not so much by the hardness of the well-water as by its coldness—particularly by its coldness in summer, and when it is many degrees below the temperature of the atmosphere. The water in the brook and the pond being warmed by long exposure to the air, as well as having become soft, the horse drinks freely of it without danger. If the horse were watered three times a-day, and especially in summer, he would often be saved from the sad torture of thirst, and from many a disease. Whoever has observed the eagerness with which the over-worked horse, hot and tired, plunges his muzzle into the pail, and the difficulty of stopping him until he has drained the last drop, may form some idea of what he had previously suffered, and will not wonder at the violent spasms, and inflammation, and sudden death, that often result. There is a prejudice in the minds of many people against the horse being fairly supplied with water. They think that it injures his wind, and disables him for quick and hard work. If he is galloped, as he too often is, immediately after drinking, his wind may be irreparably injured; but if he were oftener suffered to satiate his thirst at the intervals of rest, he would be happier and better. It is a fact unsuspected by those who have not carefully observed the horse, that if he has frequent access to water he will not drink so much in the course of the day, as another who, to cool his parched mouth, swallows as fast as he can, and knows not when to stop. On a journey a horse should be liberally supplied with water. When he is a little cooled, two or three quarts of water may be given to him, and after that his feed. Before he has finished his corn two or three quarts more may be offered. He will take no harm if this be repeated three or four times during a long and hot day."

We see, then, how important a branch of sanitary inquiries is the quality of the water we use—in fact, as was well observed by Mr. Baldwin Latham, president of the Society of Civil Engineers, in his inaugural address in February: "With regard to the necessity of sanitary measures, all those who have considered the physiology of animal life must know that life and health depend upon rightly understanding and practising sanitary laws. Pure air, pure water, and nutritious food are the three great agents for promoting health and life. Any one of these agents once used, or combining with matter of a known deleterious character, loses its vital property, and becomes, as it were, poison, unfit again to fulfil its sanitary mission until it has been exposed to those revivifying influences which will restore its vital energy. Air once used loses its vitality, and becomes unfit to sustain life; air, too, that is loaded with decomposing matter will not sustain life, because the oxygen of the air is absorbed, or used up by the organic matters which are present when undergoing decomposition; air carrying decomposing matter, or the germs of disease, is also directly injurious, because it becomes the vehicle which conveys into the human system the organic elements undergoing decomposition, which have the power to produce the same state in organic structures as exist in themselves; consequently, the effect of breathing vitiated air, or air loaded with decomposing matter, is to lower the natural state of vitality so as to render the human subject susceptible of disease; and then the corruption of the blood takes place, from contracting the poisonous elements of decomposition just as effectually as if inoculated with any known poison. The necessity of pure water is equally important to that of pure air.

Deleterious matters present in water, as a rule, act more speedily than those present in the air, because, when conveyed in water, they pass at once by the rapid process of venous absorption into the system."

The next important branch of our inquiry is the source from which we obtain our supply of water for domestic purposes. This is commonly either from wells, or rivers, or lakes—more rarely from rain. Very erroneous notions are generally entertained about the composition of these waters. They are never found to be devoid of foreign substances. They all originate from the rain water, but this becomes impregnated with the soluble matters of the soils over or through which it flows. Let us examine the composition of some of these waters, bright and tasteless as they may appear. The amount of impurities they sometimes contain will surprise some of my readers.

The warp water of the Trent, as it flowed on to the land, was found by Herepath to hold in an imperial gallon 259 grains of foreign matters; after resting for some time, it then held as it flowed off the soil only 49 grains. The waters of the great rivers of the earth vary in the amount of their impurities, according to the season of the year—such as the water of the Nile, the Mississippi and the Ganges. Mr. Everest found in a gallon of the water of the Ganges only four grains of insoluble matter in the first week in July, but 282 grains on the 8th of August. The mud deposited by the Ganges and the Nile is composed chiefly, in 100 parts, after being dried, of

	The Nile.	The Ganges.
Water	10.70	1.00
Organic matter	2.80	2.75
Oxide of iron	13.65	6.00
Silica	42.50	69.50
Carbonate of lime	3.85	8.50
Alumina	24.25	7.32
Magnesia	1.06	

The water of the Thames, in certain states of the rainfall, is as impure as any of these. After all its insoluble matters have subsided, the Thames water contains, according to Dr. Letheby, about 23 grains of solid matters per gallon; the water of the Lea, about 23; that of the Colne, 21.3; that of the Trent, 50.16. The Thames water impurities were as follows:

Carbonate of lime.....	11.10
Sulphate of lime	4.78
Sulphate of soda .....	.48
Common salt.....	1.88
Oxide of iron, &c. ....	.76
Silicic acid	1.00
Organic matter.....	2.75
<hr/>	
22.75	

Another specimen of Thames water, analysed by Dr. Graham, will be found in a subsequent Table, and this was not quite so impure as that analysed by Dr. Letheby. The water of our lakes is far more pure. The water of Loch Katrine contains only about two grains of foreign matters in a gallon, that of the Bala Lake about 5 grains; that of some of the Cumberland lakes only about 4 grains. Three of these waters were found by Professor Way to contain in grains per gallon:

	Haweswater.	Ulleswater.	Thirlmere.
Carbonate of lime	0.90	1.45	0.75
Carbonate of magnesia ...	0.38	0.42	0.29
Carbonate of soda	0.56	0.40	0.90
Chlorides of soda and } potassium	0.40	0.69	0.77
Sulphate of soda	0.90	0.65	0.78
Oxide of iron, silica, &c ...	0.25	0.20	0.05
Organic matter	0.62	0.35	0.77
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Total solid matter ...	3.99	4.16	3.61

The same degree of purity appears to belong to the great lakes of the Old and New World.

The water obtained from wells often contains more earthy or saline impurities than that from the adjoining river. Thus, the water from the Thames, at Chelsea, and that from a well at Greenwich Hospital, and another at Trafalgar Square, in London, when analysed were found to contain (in grains) in an imperial gallon—

	Thames Water.	Greenwich Hospital.	Trafalgar Square.
Carbonate of lime	16.5	19.08	8.27
Carbonate of soda	—	—	18.28
Salphate of soda	—	3.62	8.74
Salphate of lime	1.5	0.52	—
Muriate of lime	—	—	—
Common salt	1.7	0.37	20.05
Carbonate of magnesia	—	—	2.25
Salphate of potash	—	—	13.67
Salphate of magnesia	—	2.88	—
Carbonaceous matter	—	—	0.68
Silica	—	—	0.97
Phosphates	—	—	2.03
Loss	—	1.67	—
	19.7	38.14	69.94

It has been ascertained that in the home counties of England about 1,100 tons of rain water annually drain away from an acre of land. That this rain water carries away a very considerable amount of soluble substances, and that saline manures applied to the soil are thus reduced to a large extent, is not only reasonable to conclude, but has been shown by the results of various experiments. Those of Mr. John Wilson, carried on in the autumn of 1844, in East Lothian, were of this kind. He says, that the usual quantity of rain had fallen during a winter fallow, when, on the 29th of April, he collected a specimen of water flowing from a land drain; immediately after this sample was taken, the field was sown with barley, and top-dressed with guano. A few days afterwards a second sample of water was taken from the same drain. On examining these it was found that 18 lbs. of the first specimen contained 15.2 grains of solid matter, and the same quantity of the second 27.5 grains. These, upon being analysed, were found to contain—

	April 29.	May 16.
Organic matter and water	3.4	7.8
Silica	0.9	0.7
Silicate of alumina	0.4	0.2
Chloride of magnesium	1.12	—
Common salt	1.8	2.61
Carbonate of lime	—	2.7
Chloride of calcium	3.0	2.10
Sulphate of alumina	0.85	—
Peroxide of iron	2.1	2.25
Magnesia	—	1.69
Phosphate of lime	0.3	3.1
Phosphate of magnesia	—	1.8
Phosphate of alumina	—	0.45
	13.87	25.40

The turbid portion of the drainage water first discharged from the soil, after heavy rains, being examined by Mr. Wilson, was not found to differ materially in composition from the soil from which it drained; it held, however, less silica, and more lime, the matter deposited by the turbid water containing per cent.—

Silica	60.0
Silicate of alumina	17.5
Protoxide of iron	6.5
Sulphate of lime	9.4
Sulphate of magnesia	0.75
Phosphate of lime	0.6
Alumina	4.0
Water, &c....	1.25

It may be useful if we inquire as to the composition of the drainage from our farmyards, which too often finds its way into the pond at which our live stock drink. A specimen of this liquid was analysed by the late Professor Johnston. He received this from Mr. Houldsworth, of Coltness, near Hamilton. It consisted of the drainings from heaps of cow dung exposed to rain. It was dark coloured, and of course contained only what rain water is capable of washing out of such heaps. An imperial gallon of these drainings, when evaporated to dryness, left about 480 grains, or an ounce weight of dry solid matter: this solid matter consisted of—

	Grains.
Ammonia	9.6
Organic matter	200.8
Inorganic matter (ash)	268.8
	479.2

The inorganic portion consisted of—

Alkaline salts	207.8
Phosphates of lime and magnesia, with a little phosphate of iron... ..	25.1
Carbonate of lime (chalk)... ..	18.2
Carbonate of magnesia	4.3
Silica (flint) and a little alumina (clay)	13.4
	268.8

The result of all these researches lead to but one conclusion—viz., that the quality of the water we consume is of far greater importance to our health than is commonly understood. That certain diseases haunt those localities where the inhabitants consume impure water is clearly ascertained. The ague of the hundreds of Essex is now far less prevalent since the district has been supplied by Artesian or other wells with better water than that once procured from ponds. Cholera has been found to rage where impure well-water was generally used; even where the leaves of trees possessing astringent qualities have accumulated in certain ponds it has caused a great mortality in sheep. The *goitre*, so common in some parts of Switzerland, has been imputed to the quality of the water consumed by the inhabitants.

BLANDFORD FARMERS' CLUB.

THE VALUE OF STRAW AS FOOD FOR CATTLE.

At the first meeting for the year, Mr. Galpin in the chair, Mr. J. FORD said the subject has, no doubt, claimed the attention of farmers in all parts of the kingdom, in consequence of the shortness of keep of every kind. Farmers have been obliged to partly feed their beasts and sheep with straw this winter, many perhaps that never thought of doing such a thing; but necessity has driven them to do such as they have never done before, on account of the small quantity of hay

that was made last summer. I must say I have not been depending so much on hay as many of you have. I have thought for a very long time that hay was some of the dearest food we fed with. I do not wish you to understand that I think good hay is bad food; I think quite the reverse. I like to have it, and do have it if I have the grass to spare to make it in the month of June. What I mean about hay being expensive food is this; I have known many farmers pinch their sheep by

keeping them short of food during the months of April and May, all for the sake of having a great stock of hay for the next winter. I think it more to our advantage to be a little more liberal with our clover and rye-grass in the spring to improve our sheep after the winter is over, and not think so much about the hayricks for the next winter. I think it likely there is not one of you that makes use of so little hay as I do, according to the quantity of stock I keep. I have a notion that if we pay a little more attention to straw-feeding we can keep our stock so as to make it answer our purposes better than to depend so much on hay. We can winter our store beasts well with a liberal allowance of any straw, and a little addition of a few pounds of cake or corn per day for each beast, instead of keeping them on hay. I have for many years past cut my oats rather green, perhaps I may say a week before some people would say they were fit to cut; but I think the crop that is cut at that stage is the most valuable, taking both corn and straw into consideration. In cutting the oats before they are quite ripe we save all the best oats that would perhaps fall out if allowed to get ripe before cutting; and should there be a few under-ripe corns that the thrashing machine would not take out, the straw would be none the worse for it. I also like to cut my wheat rather gay. I find by so doing I get a good bold sample, and I find the millers like it better, and the straw is of more value for feeding. I say the same with wheat as I said of oats—we do not get so much prime corn shed out in the fields as we should if we allowed it to be full ripe before cutting. The barley we are obliged to let stand and get ripe before cutting, so as to have, or try to have, it fit for malting. I have been wintering my little Southdown tegs with roots and straw, and have done the same many times before. They eat the straw very well, and they are certainly in very good store order. If any one here has not seen sheep kept in that way I should be pleased to show any one my Southdowns. Try your improved Hampshires; see how they like it, if they will eat it. I think it better than to depend so much on hay. Many people, I find, are cutting a great quantity of straw into chaff and mixing corn or cake with it to rub through the winter. For my own part I object to having so much cut; let them have a small quantity of chaff with the cake or corn that you give them; let them have a sufficient quantity of straw as it is, and save the expense of so much cutting. I believe the stock will do much better in that way. I fat some quantity of oxen during the winter months. I never think of giving them hay, but I cut straw into chaff, and pulp up about one bushel of mangold per day for each beast, and mix it up with about the same quantity of chaff, having one day's food prepared and mixed beforehand; it heats a little, it softens the chaff, and the beasts are very fond of it, and they generally keep in good health and fatten fast. It behoves us to be careful of our straw. If we have more one season than we require, by all means let us thatch it; I have often found sheep and beasts prefer old straw to new. I do not know why it should be so. Some few years ago I had a field of beans so blighted as to be useless as a crop, and I cut the haulm and mixed it with other food, but the cattle did not do well upon it, and I found it rather expensive. When I pulped the mangolds and mixed them with chaff the beasts ate it better than when given whole.

The CHAIRMAN remarked that certainly this year they had gained some little experience in straw feeding from the necessity of using it through the failure of the hay crop. The past year had been to many farmers most disastrous, especially those who had a quantity of stock, and it required them to set their wits to work to make both ends meet. He trusted that the experience they had had might have a good result.

Mr. HOMER quite agreed in giving only a small quantity of chaff, mixed with meal or other food, believing that animals did better with the bulk of the straw; and this was reasonable when they considered the formation of the animals' mouths, which were adapted for masticating their food. He had used a great deal of straw this year, and kept a great quantity of stock, and they had got on very well. He gave his sheep straw in the troughs the early part of the season, and was now giving them chaff mixed with other food.

Mr. H. RICHARDS said that he believed one good result of such a season as they had experienced would be to teach them the value of straw as food for cattle. He had been informed that there were hundreds of cattle dying in the West of Eng-

land, and a master of foxhounds in that part of the country told him that his kennels were filled with the carcasses of animals which had died. They appeared to have died from cramp, but the fact was that there was not proof enough in the food given them in the early part of the year. He had found that animals fed upon cake and straw did remarkably well. The only thing with regard to straw was its harshness, to reduce which he understood that a machine had been invented, and was in use for trussing the straw, and this plan, he believed, would be far better than using chaff, for if straw was cut into such small pieces it was somewhat difficult for the animal to get hold of them. He had not given straw to sheep, but he knew of one gentleman who gave his sheep straw and hay cut into chaff, with a pint of malt-dust mixed with it, and the animals were in first-rate condition. He trusted that good would come out of evil. The year was a very trying one for farmers, and it was crushing them up to provide many articles for food in the place of hay. He considered straw had been misused and wasted, more particularly in carrying it out in a dry state on the land. To solidify the land was the great thing, and he was confident that last year a great deal of straw was lost by farmers carting their straw in too dry a state.

Mr. R. LEWIS was of opinion that they were all men of straw this year. He had never before cribbed his sheep with straw. His ewes were, before the frost set in, on rough ground, and after he had them into the yard and, as his shepherd could tell them, they had thriven wonderfully on straw and turnips. Unfortunately the turnips were now rotting, and he did not believe straw would do without something else. Cut straw was not so well digested as whole straw, and it was better for stock because they took more time to eat it. He believed farmers had lost hundreds of pounds by giving their stock too much hay, and not giving them straw. He knew several people who said that they could not do with cake and oats alone, but must have a little chaff mixed with it.

Mr. C. FLOWER stated that some years ago he had a large field of beans partially blighted, and finding it no good as corn, he got an engine, and had the whole bruised as much as possible. The engine stripped off the leaf and pods, which the animals ate, but would not eat the stalk. He then cut some up as chaff, and mixed it with malt-dust and turnip, and the cattle improved upon it. He was of opinion that the straw was too dry for the animals, and that in bean haulm there was very little proof. (Mr. Ford explained that there were no pods on his haulm whatever.) He (Mr. Flower) was of the same opinion as Mr. Ford with respect to the advantage of cutting oats and wheat gay. The reason was that the moisture was retained in it. A few days ago he went to Lord Portman's, where he saw a machine at work bruising gorse. When it came out it was reduced to a pulp, and was in a wet state, and the cattle ate it readily. He believed that gorse would be found a valuable substitute for hay; and he was sure Mr. Forrester, Lord Portman's steward, would be very pleased to show anyone the process.

Mr. KEYNES said: That until this year he had had no experience in using straw as food, and he thought they, as farmers, had learnt a lesson this year which would be found very valuable, and save them a great deal of money. His plan was at first to fill the ewes' cribs with straw and turnips. They went on well for some time, but afterwards not so well. He then gave them hay in the morning and straw at night, and he found they ate double the quantity of straw. He fully agreed cutting crops gay or early, especially oats. Mr. Fooks and Mr. Rogers were feeding their sheep with oat straw, and they were doing very well. He believed the earlier wheat and oats were cut the better would be the straw. He was pleased to hear Mr. Ford's remarks on giving too many roots, but he thought if they fed with straw they would have to give some turnips.

Mr. SCOTT fully agreed with the generally-expressed opinion that oats and wheat were best cut early. Not only was the straw more useful as food for cattle, but it was a known fact that the first wheat cut in harvest was the heaviest.

Mr. S. DAVIS stated that there was one little thing which Mr. Ford had forgotten, viz., the use of salt. They would find the straw much more valuable, and relished by the cattle as food, if they used this valuable commodity. His plan had been to use 80 lbs. to the acre for barley crop.

Mr. BARNETT stated that he did not use chaff except for horses. He considered that wheat-straw was more proofy than

either barley or oats. If the crops were cut early they did not lose so much. He did not think that milking-cows would do so well if penned up in a yard and fed on straw, but his cows had meadows to graze in.

Mr. T. FRY said he thought they had trusted too much to the hay crop, and if the corn crops were cut earlier it would be better. Wheat-straw, he was of opinion, was not so palatable to animals as oat or barley, because it was too flinty. When he cut his oats this year early his man remonstrated with him, but he told him he was going to adopt Mr. Ford's plan—cut the oats green, and let them stand in aisle some time, and he congratulated himself that by so acting he had a first-rate crop, his oats weighing 9 score 16 net. He (Mr. Fry) had been feeding his ewes on barley-straw at night and hay in the morning, and was surprised to see how they thrived upon it. He gave them as much straw as they could eat. His horses had been eating chaff, and chaff alone, but he had picked up a good idea that evening, and would not continue that plan. The first part of the year he began with oats; six bags of oats mixed with chaff, which the animals did well upon. They then had wheat-straw, but would not eat it, and this was, he believed, because it was too cutting to the mouth. He then returned to oat-straw mixed with meal, and from his experience he was perfectly satisfied that farmers would do more with straw as an article of food for their cattle than they ever had; and though he would like to have a nice rick or two of hay just now, he should not in future sacrifice his stock because he had not enough in the spring, but should use straw.

Mr. KEYNES fully endorsed Mr. Ford's views as to cutting wheat, and especially oats green. During a greater part of the season he had nothing in the shape of hay or grass for his stock, and gave them oat and wheat-straw cut into chaff, but they ate oat-straw best. The young stock he gave straw mixed with mangolds, on which they did very well. His opinion was that horses would eat wheat-straw cut green better than barley dry.

Mr. R. EYERS stated his experience with regard to horses was that they did not eat up wheat or barley-straw so clean as they did oat-straw. It was, no doubt, a bad plan to give too much chaff; they wasted it, and much was lost.

Mr. WARREN said that the reason why straw was valuable

as food was from its cellular tissues, by which the whole process of conveying juices to the seed of the plant was carried on. If crops were cut green, then a larger proportion of these juices remained in the stalk than otherwise, and the stalk was more nourishing. He did not quite agree with what had been said of chaff, because the stomachs of ruminating animals required distinction, but at the same time straw in its whole state was preferable to giving too much chaff.

The CHAIRMAN said he had never used straw as food for sheep until he looked over his neighbour's (Mr. Ford's) hedge, and saw that his sheep were eating and improving upon it. He gave his dairy-cows and stock cake and straw, and was perfectly satisfied with them. Professor Voelcker some time ago wrote an article in the *Royal Agricultural Journal* on the use of straw for feeding purposes, and the practical experience of all who had spoken that evening fully confirmed his views, viz., that the straw cut green was the most nutritious. He also gave an analysis, which showed that oat-straw was the most nutritious of all straws. His analysis, with their permission, he would read:

	Sugar and oil for fat, and to as- sist in res- piration.	Albumen flesh forming.	Digestive woody fibre.	Indigest- ive woody fibre.
Wheat-straw ...	6	1.28	20	54
Barley.....	3	68	5	66
Oat.....	9	44	29	39
Peas	10	3	16	49
Clover-hay	16	5	16	25
Meadow-hay ...	20	2	29	17

The result of the Professor's researches proved that pea-haulm was the most nutritious, oats next, then pea-pods, bean-straw next, wheat the next, and barley-straw the lowest.

The CHAIRMAN proposed a vote of thanks to Mr. Ford. This was seconded and carried.

Mr. FORD suitably acknowledged the compliment, and strongly urged the giving cattle the best of food in the spring and summer, so as to be in good condition for the winter. He found animals liked and proved best on old straw.

The meeting then separated.

THE LAND IN CROP IN 1870.

The total acreage returned for the United Kingdom as under all kinds of crops, bare fallow, and grass in 1870 was 46,177,370 acres, against 46,100,153 in 1869. Of the total acreage in 1870, Great Britain had 30,407,579 acres, Ireland 15,652,578 acres, and the islands 117,213 acres. In Great Britain the land was divided between tillage and permanent pasture in the proportion of 18,334,723 acres, or 60 per cent., for tillage, and 12,072,856 acres, or 40 per cent., for permanent pasture; in Ireland 5,661,610 acres, or 36 per cent., were under tillage, and 9,990,968 acres, or 64 per cent., were under permanent pasture; and in the islands 95,742 acres, or 81 per cent., were under tillage, and 21,471 acres, or 19 per cent., under permanent pasture.

In 1870 the United Kingdom had a total acreage under corn crops (including beans and peas) of 11,755,053 acres, of which 9,548,041 acres were in Great Britain, 2,173,109 in Ireland, and 33,903 in the islands. Under green crops (including potatoes) the total acreage for the United Kingdom was 5,107,135 acres, of which 3,586,730 were in Great Britain, 1,498,719 in Ireland, and 21,686 in the islands. Under bare fallow the total acreage for the United Kingdom was 680,294 acres, of which 610,517 acres were in Great Britain, 19,054 acres in Ireland, and 723 acres in the islands. Under clover and other kinds of seed-grasses under rotation the total acreage for the United Kingdom was returned at 6,320,126 acres, of which 4,504,884 acres were returned for Great Britain, 1,775,835 acres for Ireland, and 39,407 acres in the islands. The acreage under permanent pasture in 1870 in each division of the United Kingdom has already been stated comparatively with the total acreage under tillage.

Of the 11,755,053 acres under corn crops in 1870 in the United Kingdom, 8,773,663 were under wheat, 2,628,759

under barley, 4,424,536 under oats, 74,527 under rye, 539,968 under beans, and 318,607 under peas. Comparing the corn crops of Great Britain and Ireland, it appears that of wheat, Great Britain, inclusive of the islands, had 3,512,749 and Ireland 260,914 acres; of barley, Great Britain had 2,371,739 and Ireland 243,435 acres; of oats, Great Britain had 2,763,300 and Ireland 1,648,764 acres; of rye, Great Britain had 65,166 and Ireland 9,281 acres; of beans, Great Britain had 530,095 and Ireland only 9,644 acres; of peas, Great Britain had 317,198 and Ireland not more than 1,071 acres.

The green crops (including potatoes) occupied a total acreage in the United Kingdom of 5,107,135 acres in 1870. Potatoes were grown to the extent of 1,639,296 acres, turnips to the extent of 2,559,629 acres, mangold to the extent of 332,409 acres, carrots to the extent of 19,925 acres, cabbages, kohl-rabi, and rape to the extent of 189,344 acres; and vetches, lucerne, and other green crops, except clover or grass, to the extent of 366,532 acres. The larger acreage under potatoes in Ireland than in Great Britain, and the larger acreage under other kinds of green crops in Great Britain than in Ireland are so well known that the figures of the relative acreage under the several kinds of green crops in Great Britain and Ireland, which will be found in the abstract tables, need not be more specially referred to.

The total number of each kind of live stock in the United Kingdom upon the 25th of June, 1870 was—horses about 2,580,000, of which Great Britain possessed about 2,050,000 (including horses liable to duty), and Ireland 530,000; cattle 9,235,000, of which 5,403,000 were in Great Britain, and 3,796,000 in Ireland; sheep, 32,786,000, of which the number in Great Britain was 28,397,000, and in Ireland 4,389,000;

and pigs, 3,650,000, of which Great Britain had 2,171,000 (exclusive of pigs kept in towns and by cottagers having less than a quarter of an acre of land), and Ireland 1,459,000.

The quantity of land returned as apportioned to the cultivation of corn crops in 1870 exhibits the following variations from the three previous years. In Great Britain there were 210,000 acres less than in 1869, 115,000 acres more than in 1868, and 264,000 acres more than in 1867. In Ireland there were 35,000 acres less than in 1869, 19,000 acres less than in 1868, but 58,000 more than in 1867.

The acreage under wheat in the United Kingdom in 1870 was less by nearly 200,000 acres than in 1869. This difference, at an average yield of 28 bushels per acre, represents a diminution in the home supply of wheat of 700,000 qrs.

The acreage returned under barley in 1870 was considerably larger, both in Great Britain and in Ireland, than in the previous three years. In Great Britain the acreage under barley in 1870 was 120,000 acres more than in 1869, 220,000 acres more than in 1868, and 112,000 acres more than in 1867. In Ireland the increase has been progressive since 1867, and in 1870 there were 20,000 acres more than in 1869, 55,000 more than in 1868, and 71,000 more than 1867.

There is much less variation in the acreage of the oat crop than in that of wheat or barley. The differences in the number of acres under oats in Great Britain in 1870 as compared with the three previous years are not of sufficient importance for special notice, and the same remark is applicable to Ireland, where there appears to be a tendency to diminish the cultivation of oats.

The acreage under beans in Great Britain in 1867 shows a decrease, as compared with 1869, of 45,000 acres, but it was not very different from the acreage under that crop in 1868 and 1867.

The acreage under peas in Great Britain in 1870 was also below what it was in 1869 to the extent of 79,000 acres, but the acreage of 1870 did not differ much from that of 1868 and 1867. Both beans and peas are only cultivated to a very limited extent in Ireland.

The acreage of land under all kinds of green crops (including potatoes) in Great Britain in 1870 varied but little from what it was in 1869, there being an increase in 1870 of not quite 12,000 acres. The acreage of such crops in 1870 was, however, in excess of the acreage in 1868 by 200,000 acres, and of the acreage in 1867 by 88,000 acres. The total acreage under green crops in Ireland shows an increase in each year from 1867 to 1870. In the latter year there was an increase of 30,000 acres over 1869, of 42,000 acres over 1868, and of 66,000 acres over 1867.

There was a very trifling difference between the acreage under potatoes, both in Great Britain and Ireland, in 1870 as compared with 1869; but the number of acres under that useful crop in Great Britain in 1870 exceeded the number in 1868 by 46,000 acres, and the number in 1867 by 95,000 acres, showing a very considerable extension of the planting of potatoes in a period of four years. The acreage of the potato crop in Ireland in 1870 was about 9,000 acres more than in 1868, and 42,000 acres more than in 1867.

Turnips and swedes, although, perhaps, unfortunately on account of the very unfavourable season, were sown in Great Britain to a larger extent in 1870 than in 1869 by 39,000 acres, and the acreage under those roots in 1870 was also above what it had been in 1868 and 1867. In Ireland there 18,000 more acres of turnips in 1870 than in 1869, and the acreage of 1870 was greater than that of 1868 and 1867. The cultivation of mangolds in Great Britain continues to increase; there were in 1870 14,000 acres more than in 1869, 57,000 more than in 1868, and 48,000 more than in 1867. In Ireland also, although but a small acreage is as yet devoted to this valuable crop, there was a marked increase in 1870. The crops of cabbage, kohlrabi, and rape, in Great Britain, varied but little in acreage in 1870 from 1869, but, as shown in the detailed tables, kohlrabi advanced from 13,000 acres in 1868 to 24,000 acres in 1870. Vetches, lucerne, and other green crops, except clover and seed grasses, show for Great Britain a decrease of 43,000 acres in 1870 as compared with 1869; the falling off was chiefly in vetches. Beetroot, which is now attracting attention in this country for the manufacture of sugar and spirit, is returned under the last mentioned class of green crops, and, although but a small acreage is occupied by this root, there has been an increase from 1,429

acres in 1868 to 4,332 acres in 1870. The exact acreage under sugar-beet is, however, not known.

An increased cultivation of flax in Great Britain has been advocated in recent years and agriculturists are acting upon the recommendation, the acreage under the crop having advanced from 17,543 acres in 1868 to 23,957 acres in 1870. In Great Britain, flax is almost exclusively grown in England, and the cultivation of it increased in 1870, principally in the counties of Cambridge, Lincoln, Norfolk, Somerset, and Suffolk. Flax is a more important crop in Ireland than in England, but the Irish Returns for 1870 show a decrease under flax of 34,000 acres.

The cultivation of hops did not recover in 1870 the depression experienced in 1869, the acreage under the crop in Great Britain in 1870 being rather lower even than it was in 1869. The acreage returned under hops in England has been considered by some high authorities upon the subject to be below the extent actually planted, but the collecting officers see no reason to doubt the general accuracy of the returns.

The extent of land returned under bare fallow in 1870, as compared with 1869, exhibits a decrease of 128,000 acres, of which a large portion was no doubt placed under crop, but some part of the diminution is owing to more correct classification of land as bare fallow, especially in the counties of Cornwall and Devon.

The difference in the acreage returned under clover and other grasses under rotation in 1870, as compared with 1869, requires to be noticed. As many as 1,056,000 additional acres were returned as under rotation grasses in 1870 in Great Britain. The acreage under these grasses is much influenced by the character of the seasons, and there was a variation of 510,000 acres in the quantity of land sown with them in the years 1869 and 1868. But, allowing for a much larger breadth of clover in 1870 than in 1869, a considerable part of the addition to the acreage under this head in 1870 must be attributed partly to the transfer to the heading of grass under rotation, of land returned in previous years as permanent pasture; and partly to the returning of land only sown with clover in 1870.

The acreage under permanent pasture in Great Britain exhibits a decrease in 1870, as compared with 1869, of 663,000 acres. Although the reduction under this head in 1870 occurs in almost every county, the detailed tables show that the largest decrease is in the grass districts. This diminution of permanent pasture helps to bear out the probability of the alteration in the heading for grass under rotation in 1870 having led to the return of a good deal of grass land as under rotation which in previous years, from being kept in pasture for more than one season, was returned as permanent pasture.—*From The Government Agricultural Returns.*

LOCAL TAXATION.—At a meeting of the Staffordshire Chamber of Agriculture, Mr. R. H. Masfen in the chair, Mr. Brown moved the following resolution, which was seconded by Mr. Byrd, and carried: "That our present system of levying local rates upon real property only is most unjust; that it discourages the application of capital to agriculture; that it is oppressive to owners and occupiers of house property in town and country; and demoralising to the labouring classes, by preventing the erection and improvement of dwellings for the poor. That this Chamber, whilst contemplating with satisfaction the prospect of an early settlement of this question, looks with some concern on the appointment of a Parliamentary committee to consider whether it is desirable that these burdens should be borne equally by owners and occupiers of real property, strongly deprecates any attempt to make this a party question, and respectfully solicits members of Parliament on both sides of the House to give their support to a comprehensive measure requiring all classes to contribute in accordance with their means to the support of institutions the advantages from which are shared in alike by the entire community." The following resolution of the Central Chamber was also considered: "That in the opinion of the Council good roads cheapen commodities to the consumer, benefit all classes, especially the employers of labour, and secure to the public rights of user practically unlimited; and that, therefore, highways should not continue to be a charge on real property only through a poor-rate assessment." The resolution was agreed to.

FRAMLINGHAM FARMERS' CLUB.

SUGAR BEET.

At the last meeting the chair was taken by Mr. F. S. Corrance, M.P., president of the Club. The Chairman then briefly introduced Mr. Paterson to the Club.

Mr. PATERSON, of Parham, read a paper on Sugar Beet. He said he could not approach the subject on the ground of an experience either in the growth of the root or the manufacture of the sugar. The deep interest he felt in the question himself, and the belief that that interest was shared by them, was his only plea for introducing the subject. He confessed his acquaintance with the subject did not enable him to solve all the difficulties attending the culture of the beet crops in England, but he was sanguine that in England, before long, we should see, as on the continent, sugar beet one of the staple products of the farms. He then referred to the position of its culture on the continent. In 1869 there were on the continent 1,800 sugar factories, producing nearly 700,000 tons a-year, of the value of some £17,000,000 sterling; in addition to which the factories might be estimated to produce pulp to the amount of two millions, spirit from the sugar refuse $2\frac{1}{2}$ millions, potash, and sandry manures, £1,800,000, producing a total value of 23 millions. He then traced the history of the rise of the beet-root sugar industry in Europe, and proceeded to say: I come now to the point that more nearly concerns us as farmers, namely, the growth of the root. And there are several important particulars in which its successful cultivation differs from that of its near ally, the mangold-wurzel. In both there are two objects to be attained, quantity and quality. But quality in the mangold-wurzel, and quality in the sugar beet, are two different things. In the mangold we assume a good root if it cuts firm and close. We do not send it to a chemist to ascertain the amount of nutritive matter it contains. In the sugar beet we may have an apparently good root, and yet worthless for the purpose of the manufacturer. First, from deficiency of sugar, for every extra percentage of sugar is clear gain to the factor. 50 per cent. will barely pay expenses. According to Mr. Arnold Baruchson, $6\frac{1}{2}$ per cent. of extractable sugar will give a profit of 15 per cent.; 7, 18: $7\frac{1}{2}$, 21; 8 24, per cent. How important then to have a root containing a large per centage of sugar. The second essential in the quality of the roots is the absence of crude salts and alluminous compounds. They are detrimental in two ways, because they retain in the pulp a per centage of sugar which would otherwise be available, and also because they vastly increase the expense of the various refining operations. "Consequently," says the authority above quoted, "whatever increases its saline qualities—proximity to the sea, solar action on the portion above ground, the use of land or manure impregnated with salt—is a serious obstacle to success and must be avoided. In some instances the undue proportion of salt in sugar has nearly rendered it unsaleable; and so generally is this recognized abroad, especially in Germany, that the factors in contracting with the growers stipulate that it shall not be grown on certain soils, and often name the manure to be used. One per cent. of salt destroys 50 per cent. of sugar. Farmyard manure should be used moderately. Rape cakes, bones, and guano are recommended; lime, also, is very good. The manuring should take place only during the autumn preceding the sowing." The practical deductions from this advice of Mr. Baruchson's seem to be very plain. The land must be in good heart, but the fertilisers used must have been applied sufficiently long before to have become thoroughly incorporated in the soil. Add to these directions that the seed-bed must be deep and thoroughly well worked. This on our heavy lands, as growers of mangold well know, can only be attained by autumn cultivation. A fine earth is essential for the sugar beet, for the existence of large clods or stones, or aught hindering the free growth of the root, tends to distort it, and it becomes fanged. A badly-shaped root means but little sugar and much crude salts. In other respects save one, the cultivation of the sugar beet is analogous to that of the mangold. The sugar beet is a much smaller root. It must, therefore, be planted closer;

drills, say 12 or 14 inches apart, and the same distance between the plants. An average sugar beet will weigh about 2lbs. At this weight, if the plants are 14 inches apart each way, they will give a yield of 25 tons to the acre if the plant is good. The seed required will be from 10 to 15 lbs. per acre. A good root should be pear-shaped, smooth in the skin, without fibrous rootlets, and having the flesh white, firm, and dense. The tops should be small, and the top of the root kept well covered up; the exposure to the sun prevents the secretion of the sugar. If the roots be under 1lb. in weight they are generally fibrous and salty, and unprofitable both to grower and factor; if over $2\frac{1}{2}$ lbs. they are often watery and poor in sugar. This is a general rule; there are exceptions to it. Dr. Voelcker gives analyses of two samples of Silesian white, grown in 1868. These were very large roots; one of 11lbs. 6oz. contained 2.22 of sugar; the other, $6\frac{1}{2}$ lbs. in weight, contained 4.82. They were both raised from good seed. Their wretched quality is owing to the application of a heavy coat of farmyard manure in the spring. The white Silesian beet may be considered to be the best strain of the root. Of this there are many selections and improvements. There are also other strains called the Belgian, the Quedlinburg, the Siberian, and the Imperial. These differ somewhat in shape, in the hue of the leaves, and in the colour of the skin. The manufacture of the sugar from the root may be divided into three processes—the mechanical and the chemical manipulation, and the boiling down. The roots on their arrival at the factory, if not wanted for immediate use, are heaped up in large clamps, and well covered with straw for protection. Care is taken that they are not injured in transit, and the earth that adheres should have every facility for working off, as in most cases they have no preparatory cleaning before the washing process. These points should have been especially attended to in raising the beet. The washing is performed in a large revolving drum, constructed of rods of iron, and this works in a tank of water. The roots are put in at one end, and the natural inclination or else an archimedean screw propels the roots from one end to the other. From the washer they pass into the pulper, a barrel covered on the outside with an immense number of fine saw blades fixed parallel to the axle and to one another at intervals of half-an-inch. The barrel revolves at a great pace in a concave, and the roots are ground into a fine impalpable pulp. Two scoops at the end of long cranks dip alternately into the reservoir below the pulper and tip the regulated quantities of pulp into woollen bags, which are quickly secured by folding the ends over and then placed one above another to the height of some three feet upon the table of an hydraulic press. Between each bag there is a thin iron plate. Slowly the press descends, and with irresistible power the juice is squeezed out of the bags. From the first press they are shifted to another where more power is employed, and all the juice that can be obtained is eliminated. The bags are emptied of the pulp, and in the course of a few minutes come into service again. The juice runs off into a tank where it is raised by pressure of steam, to undergo the chemical treatment on an upper floor. In some factories, as in one Mr. Howard speaks of at Cologne, the juice is separated by centrifugal force, a rapid rotary motion being applied to a cylinder-like vessel containing the pulp. Of the comparative merits of the two systems I am unable to speak; the latter would seem to be the more cleanly. Centrifugal machines of similar character may be seen at the gun-cotton works at Stowmarket where they are used, separating the water from the gun-cotton pulp. The object of the chemical manipulation is to separate those substances from the sugar which would either prevent its crystallising or injure the quality. The juice is run into large copper vessels called defecating pans. Here a certain proportion of milk of lime, from one to two per cent. is added, and steam heat is applied to the under surface. After boiling some time, a thick scum will have formed on the surface, composed of organic impurities, albuminous compounds, iron, manganese

oxides and silicic and phosphoric acid in combination with the lime. The juice is then drawn off from below, taking care that the scum does not go through with the clear liquid. These scums are afterwards pressed, and resulting juice mixed with the bulk. This ends the defecation. The syrup is conducted into another vat, to undergo the saturation or carbonation process. Here under applied heat, a stream of carbonic acid gas is passed through the syrup. A chemical combination of the gas and the lime takes place, and any albuminous matter remaining is coagulated. At a critical moment, requiring experienced watching, the operation is stopped and the liquid is drawn into another vat to settle. When the lime used for defecation is burnt on the premises, this will give the necessary carbonic acid gas for the saturation process. Besides these chemical impurities there will always be a considerable percentage of soda and potash, which are but to a small extent removed by these processes, they are mostly found in the molasses after the crystallization of the sugar. Chlorides, the existence of which in sugar beet must be guarded against by not using salt as a manure, are very difficult to separate, and involve the loss of a certain portion of the sugar. When the juice has now been allowed to settle it is passed through a charcoal filter. This is a large cylinder of iron, about 10 feet by 3 feet, filled with animal charcoal. From the filter it goes to the vacuum pans, where it is boiled down under a gentle heat, hence it passes to the crystallizing pans, where it is left in undisturbed repose for the sugar to crystallise. It is then drained from the molasses by centrifugal motion. This completes the manufacture of the raw sugar. It is a marketable article to be dealt with by the sugar refiner. A great deal of prejudice exists against the beet sugar in this country. This is entirely groundless; the refining may be a little more troublesome than cane sugar, but when properly conducted the result will be equal to any sugars on the market. This sample of pure beet sugar, the produce of the Lavenham factory, it would be difficult to equal anywhere. As to the amount of sugar to be obtained from the root, it was impossible to extract it all. If the root was of good quality and containing from 10 to 10½ per cent. in the gross, some 6½ or 7 per cent. might be extracted. The very expensive character of the machinery employed precluded the possibility of entering upon this industry except on a scale of considerable magnitude. The smallest scale on which the undertaking could be profitably worked would probably be a 500 acre factory, working up from 8,000 to 10,000 tons. This would necessitate a capital of £10,000 or £12,000 for plant, and £6,000 for working. How far continental agriculture had benefited by this industry Mr. Howard on Continental Farming showed in his paper. The figures quoted on this branch of the subject proved the indirect benefit of the crop in its improving the fertility of the land by the high farming it required. In view of the immense benefit of the beet-root culture to continental farmers, it was but natural that the question should arise of whether it was possible to introduce it into England. Some years ago attempts were made to introduce it near London, but failed, owing to the small scale on which it was carried on. In 1867 Mr. Howard wrote to the President of the Royal Agricultural Society, enlarging upon the benefit it was to continental farmers, and recommending that the Society send out a deputation to the Continent to obtain reliable information upon the subject. This suggestion, however, was not acted upon, and about the same time Mr. Duncan erected a factory at Lavenham, and entered into an agreement with the neighbouring farmers to supply the roots. He has had many difficulties to contend with, and has worked till this last season at a loss, on account of the short supply of roots. This year the last of them were finished on the 17th January. The factory should have been at work till the end of February. Mr. Duncan does not complete the manufacture of sugar at Lavenham, but forward it to London as a thick syrup. It would be necessary, at any future erected factory, to complete the manufacture, as the syrup is not a marketable article. I had intended to see the factory in full work, but my visit was unavoidably delayed till after its close. I was entertained with the utmost courtesy by Mr. Porter, Mr. Duncan's manager, who showed me over the deserted factory, and explained the various processes. For there a very large amount of power is required—two or three engines of more than 100 horsepower in the aggregate. A small stream running by the fac-

tory supplies the water for the engines, and for the various washing requirements, some 2,000 gallons per hour are needed; it is of the utmost importance to have a good supply of water. The factory is near the rail, though not connected with it; there are facilities, however, for a tramway. I saw enough of valuable plant in the shape of steam engines, hydraulic presses, large copper defecating and saturating pans, vacuum pans, and other machinery of the most expensive sort, to convince me that a few thousand pounds would not go very far here. With its present machinery the factory is capable of working up some 10,000 tons roots in the season—that is from the middle of October to the end of February. This would be the assured produce of from 500 to 700 acres. The experience of the beet growers in this district is valuable in looking at the crop from the farmers' point of view. By the courtesy of Mr. Wm. Biddell, of Lavenham, I am able to place before you his estimate of the comparative value of sugar beet and other crops which it might take the place of. The following summary of the expenses per acre is to my mind rather high, and would lead to moderate expectations of the value of the sugar beet:

	£	s.	d.
Rent, 33s.; tithes, 7s. 6d.; interest, on capital, 10s.	2	14	0
Horseshoe drill	2	5	0
Handhoe and singling, 12s. 6d.; seed, 9lbs. 4s. 6d.	0	17	0
Harvestry	0	11	0
Filling and carting two miles	1	10	0
10 loads manure, 45s.; 3 cwt. phosphate, 16s. 6d.; 1 cwt. guano, 14s.; labour, 2s. 6d. ...	3	13	0
Total	£11	15	0

This estimate is higher than that of other farmers in the parish, one giving £8 5s.; another, £8 10s. Mr. Biddell's estimate is probably a high farming estimate. Mr. Porter's is £10, or with carriage of five miles, £10 10s. The produce of the crop is estimated at 15 tons to the acre; this is at £1 per ton, and 7s. as the value of the tops gives £15 7s., leaving profit on Mr. Biddell's estimate of £3 12s.; on Mr. Porter's, of £4 17s.; and on the others, if they are not too low, of £6 17s. To set side by side with this Mr. Baruchson gives an estimate of the expenses of a bean crop, which the beet crop may be supposed to take the place of:

	£	s.	d.
Common charges	2	14	0
Horse tillage	1	5	0
Seed, three bushels	0	15	0
Manure, 10 loads	2	5	0
Harvest and thatching	0	18	0
Horse hoe and cleaning	0	10	0
Thrashing and dressing	0	6	0
	8	13	0

The value of the crop, if we reckon eight coombs beans and the straw 45s., will be £10 5s., leaving an apparent profit of £1 12s. Here is also an estimate of expenses of clover or artificial grasses:

	£	s.	d.
Common charges	2	14	0
Seed and harvest	0	10	0
	3	4	0
Value	6	0	0

Leaving 2 16 0 as apparent profit. The balance here is decidedly in favour of the sugar beet. Most unquestionably, as compared with the beans; apparently, as compared with the artificial grasses. I say, apparently, because a clover layer would be a better preparation for wheat—a consideration which must be taken account of in estimating the value of any crop. In the case of a failure in the plant of clover, the sugar beet would be an excellent substitute; but, probably, its chief place in the rotation would be that of the mangold. The cost of the sugar beet would be, perhaps, £1 per acre more than that of the mangold. Mr. Biddell said a farmer must be a good grazier to make £10 an acre of his roots. Probably you will think even when you have taken the manure into consideration that £6 or £7 is nearer its value. If we say £7, and deduct £1 for the greater

expense of the sugar beet, the balance in favour of the latter will be £7 per acre, which difference will transfer a loss into a very tidy profit. Is 15 tons to the acre a high or a low estimate? The last three seasons have been against the crop at Lavenham. Want of experience, also, at first, may have had some effect in diminishing the yield. Mr. Biddell gives the following data of these three years: In 1868 he grew 9 tons per acre; in 1869 there was a good plant, but it fell off in June from the extreme drought—produce, 12-13 tons per acre; in 1870 two-thirds plant—produce, 11½ tons; other growers give from 12 to 13. This seems considerably under the mark, but you must consider the extreme inclemency of the season. Notwithstanding this, Mr. Biddell puts the probable average in future at 15 tons to the acre. Mr. Porter considers an average crop would be nearer 20 tons than 15. His estimate is based on an experience of the crop in France, which frequently reaches 20 tons. The statistics of the beet culture in France give 16 tons to the acre. As our farming is considerably higher than that of the French, we could probably reach 20 tons as easily as they 16. The rules issued by Mr. Duncan for the guidance of the beet growers at Lavenham are as follows: In reference to the pulp, the proportion it bears to the gross weight of the roots is about 1 in 5. For every five tons of roots sent in by the farmer, he may take one ton pulp back. They readily agree to this arrangement, most of them taking their full share, and some of them buying up their neighbours', as if they thought it was at least well worth the money. It is usual to give a certain portion of meal with the pulp, and straw chaff, if not hay. Dr. Voelcker, in his paper speaks of the use of the pulp in Belgium. There are two systems of feeding there; in one of these store beasts are fed on the pulp alone. For two or three weeks this system is attended with a serious loss of condition; on recovery from this the cattle rapidly improve, and pay fairly for the keep. The better system is grazing bullocks on a mixture of pulp and meal. They are fed at first on 14 lbs. pulp and 1 lb. meal; this is gradually increased to 56 lbs. pulp and 4 lbs. meal. Some graziers give less pulp and more meal. They of course give straw-chaff or straw *ad libitum*. Sheep may be fattened on the same mixture, giving a bullock's allowance to ten sheep, but they do not do so well on the keep as bullocks. At this rate of feeding the pulp from an acre of beet would be about the season's allowance of the bullock. Dr. Voelcker states that in Belgium the number of bullocks a farm of 100 acres of arable land would carry would be from 18 to 25, supposing no other stock to be kept. This would be a course of 25 acres of beet; this supposes the use of clover as aids. In his contribution to the *Royal Agricultural Society's Journal* of 1871, after a careful analysis of both the material and the evidence on the subject, he gives the feeding value of one ton of pulp as equal to one and a half tons of sugar beet, and two tons of common beet. If, then, common beet be of the value of 7s. per ton to us as graziers, the sugar beet pulp should be valued at 14s., but as we have the beet on the farm and have to send to the factory for the pulp, it may be assumed that 12s. is about its market value. Whether the crop was an exhaustive one, Mr. Biddell's opinion was that it was not more so than a bean crop. The fertilisers taken out of the ground by it could be returned by the pulp. Mr. Biddell had told him that better crops could be obtained by average English than by average continental farming. He (Mr. Paterson) acknowledged there were many difficulties in the way of the undertaking of this country, the principal one being that of capital. The cost of carriage also precluded a factory from receiving roots from a distance. He also alluded to many other difficulties in the way of the venture, and concluded as follows:—The benefits of a factory to a district would be immense. It would benefit the labouring classes by affording employment at the slackest time of the year. It is computed at Lavenham that the extra outlay for labour on the farm in the cultivation of this crop is £1 for every acre grown. At the factory it is over £2. Thus a 500 acre factory will disburse directly and indirectly over £1,500 in unskilled labour. In France and Belgium poor rates are hardly known in sugar beet districts. If we could say the same it would be a matter for congratulation. The indirect employ of labour in the manufacture and maintenance of the machinery, in the production of the lime and charcoal, and in the transport of coal, will quicken the labour market in a thousand channels. To the landlord the prospect of the land being subject to the same rise in value

that everywhere takes place on the continent, will probably not be a thing to be dreaded. But perhaps the chief benefit will be a social one; the benefit of our business and social life in the country being quickened, and having that vigour imparted to them, the absence of which is one great drawback to a country life.

Mr. GOODWYN GOODWYN said: One of the greatest difficulties in the way of the extensive cultivation of sugar-beet was the enormous expense entailed in the establishment of a factory. He doubted whether the present clauses in their leases would enable them to cultivate sugar-beet. In France the farmers were not tenant farmers, and were therefore at liberty to grow what they pleased. If the crop, however, was proved to be so paying a one as Mr. Paterson had said, and which he was not sanguine enough to think, the present arrangement would be altered by the landlords. He thought also that on heavy lands the restrictions required at the factory on the reception of the roots were too great. On light soils they might be able to clean and dress the roots, but to have to do it on heavy would very materially diminish the profits. He had his doubts about the climate of this country being suitable for the proper growth of the roots. He had no doubt it would be a great boon in the employment of labour in rural districts. He was not sanguine enough to hope that its cultivation would ever be so general as some thought, but he thought good would be done by the ventilation of the subject.

Mr. S. G. CARLEY, on being called upon to give an opinion of the sample of sugar Mr. Paterson had produced from the Lavenham factory, said it was a very good one. Very little of the sugar in the market now was exclusively beet-root sugar. Cane sugar was generally mixed with beet-root sugar. Cane sugar was superior in sweetness to beet-root sugar.

Mr. W. B. KENT said he saw some of the Lavenham sugar a few days since in a shop at Norwich, and it was declared to be very superior.

Mr. PAUL READ thought it was possible to devise some means of taking the saccharine matter from the roots and leaving the pulp at home without the expense of a factory. He thought the pulp was of little use as when its saccharine matter was extracted its fattening properties were gone. He thought that there were many more important things for the benefit of this country to grow than sugar-beet. The farmers could not now grow enough bread and meat, and he thought it impolitic to grow sugar-beet when they could grow cane sugar in abundance in tropical climates.

Mr. GRAY doubted the fattening qualities of the pulp.

Mr. PATERSON explained that there was a deal of sugar left in the pulp. He said there was more sugar in the beet-root sugar pulp than in ordinary mangolds.

In answer to Mr. GOODWYN Mr. PATERSON said Mr. Duncan would supply seed at 6d. per lb.

The CHAIRMAN said there was no doubt that this manufacture would find employment for many persons who would at that particular time be idle; and on that ground, therefore, they ought to give it all the support in their power. This country was different to France or Germany, as the farmers were for the most part tenant-farmers. There a man farming five hundred acres would erect a five-hundred-acre factory; but in this country one person would have to manufacture whilst another would have to grow. He did not agree with Mr. Goodwyn that their leases would not permit them to grow a certain quantity of this crop; but he agreed with him that if it could be shown to be of advantage, the landlords would appreciate it. The Chairman, after some further remarks, dealt with Mr. Paterson's figures: he thought they showed too much profit for the farmer. He thought they could not rely upon figures, and in support of that argument he instanced a crop of hay of his own where, according to his estimate, he should have got half profit, but when he came to sell his hay, it was nothing of the kind. He thought all statistics were liable to be so. The Chairman then referred, at some length, to the question of whether the crops exhausted the soil, and came to the conclusion that the elements it took from the soil were not easy to re-place.

Mr. G. E. JEAFFERSON said the constituents of sugar were in the atmosphere, and by that means could be restored to the soil.

Mr. PATERSON, in replying, said Mr. Carley's statement of he cane sugar being mixed with the beet sugar in refining

process was perfectly correct. He did not, however, agree with him that it was not so sweet. Sugar was sugar, and was equally sweet wherever it was found. With reference to Mr. Read's bread-and-meat argument, he described it as nonsense. That was not a question that had anything to do with the farmer. He, of course, grew what paid him best. With reference to the seed he could not impress upon them too strongly the importance of having good seed.

Mr. GOODWYN asked Mr. Paterson if the seed required acclimatizing as flax seed did, or whether it would do as well the first year.

Mr. PATERSON said he should think sugar beet was subject to the same laws as other beet seed. His figures were very simple, and spoke for themselves.

Mr. GOODWYN proposed a vote of thanks to Mr. Paterson, which was agreed to.

THE CARMARTHENSHIRE FARMERS' CLUB.

GRASS LANDS.

At the quarterly meeting, Mr. Brodie, of Tyrdail, in the chair, the subject for discussion was Grass Lands, on which the following paper was read by Mr. J. BUCKLEY, of Penyal:

The leading husbandry of these western counties of the Principality is dairying and the breeding and rearing of stock, chiefly cattle; and doubtless our climate and soil is more suited to these branches of agriculture than to any other. Our climate is moist and mild; our summer heat is considerably below the average, and our depth of rainfall far greater than in the midland and eastern counties, and, indeed, with little exception, than any other part of the kingdom; consequently, our own crops are deficient in quantity and inferior in quality, but at the same time the face of this country is green when these corn-producing districts are burnt up, and this greenness, during most seasons, is maintained from early in the spring to late in the autumn. Now, do we respond to these indications of Nature? Do we avail ourselves of these great natural advantages to the extent that we should? Ought not a much larger proportion of our beautiful hills and vales to be in permanent pasture and meadow than we see of them? Excepting in some favoured districts, how little really good profitable grass lands do we find! The great proportion of the country is what is termed "arable" land, of which a very large part is in a most unproductive state—called among us "a state of rest"—producing little else than couch grass and indigenous weeds. And what else could be expected from the mode of cultivation? After several successive crops of corn have been taken, the land is sown with clover and rye grasses, and, as might be expected from its exhausted and foul state, these give place the second or third year to worthless trash and weeds, in which unproductive state it frequently continues for years. Much of this arable land is suitable to be converted into permanent grass, but not in the way that it is usually attempted. Many a valuable field of grass land has been ploughed up under the plea of getting rid of docks, thistles, or coarse herbage, with the intention of laying it down again with finer grasses; but the attempt to do so has proved unsuccessful, after taking two or three or more crops of corn, which have proved very abundant, being fed by the rich humus of the old turf. But that vegetable humus being exhausted, the soil will not support the perennial grasses, and in a year or two the surface becomes bare or mossy, and the field lost to the farm as permanent meadow or pasture. And how many farms do we find with scarcely a field of good old grass sward upon them! What a loss to a country that derives, or should derive, its main produce and support from the breeding and rearing of stock and from the dairy! I propose, in bringing this subject before you, to consider, in the first place, what I conceive to be the great first step towards the improvement of our agricultural position; and that is—the means by which much of the arable land of this and the neighbouring counties may be converted into profitable permanent meadow and pasture; and, in the second place, how our existing grass lands may be improved. But my thoughts on the first head, notwithstanding I have pulled in the reins for brevity, have extended too far to enter upon the second head on the present occasion; but I shall be happy to take it up at some future time if wished by the Club. To save time I will, if you please, take you at once to a farm, and on two fields adjoining each other. One of them is permanent grass and the other arable land. They were originally the same soil, and have still the same subsoil. Now, I will cut a sod out of each field. In the grass-field (or

meadow) the spade goes down easily, and I cut out a strong compact sod, with four, five, or six inches of brown rooty turf, the accumulation of many years. Now, I will take you through the gate to the arable field, and I will cut a sod there. The spade goes down harshly, being obstructed by small stones, and the sod I bring up falls all to pieces—there is no turfy tenacity, and the earth is of a lighter colour. It will now, I think, appear tolerably plain that the conversion of this arable field into permanent grass or turf must be a work of time, and it is not quite so easily accomplished as some suppose. It can never be effected in the way in which most of the arable land of this country is cropped and managed. The last must be first brought into good deep and clean cultivation. It may require several courses of alternate cropping as a preparation, but where the soil is already in high condition, the work may be commenced at once. As I have several fields that were for many years arable, and worked on the Norfolk four-course system, that are now established in profitable permanent grass, and other fields in progress towards the same object, I will state briefly the means by which this desired change was brought about. The soil of some of these fields is a light dry loam, and not deep, the sandstone quarry lying underneath. There was neither the depth or strength of soil that you would select as very suitable to lay down in permanent grass; but their situation near the town determined that point, and their rent as accommodation land proves the completion and success of the change. Circumstances as well as soil have also in other cases decided the appropriation to grass, as where the surface could be irrigated by bringing a flow of water over it from some spring, or drainage outfall at a higher level, where at certain seasons there is a considerable accumulation of water that could be turned on and off at pleasure. But I would here remark that the same management with this object has proved successful on a farm distant from the town where there are not the same advantages as to procuring manure. These fields having been worked as stated on the four-course system, had been manured for the root-crop at the rate of about twenty loads of farm-yard dung and 4 cwt. of dissolved bones per acre, and dressed with lime, 4 to 5 loads per acre, for the wheat, besides a little surface-dressing with some artificial manure either on the clover crop if cut for hay, or on the young wheat plant in the spring, which liberal treatment the produce of these four crops abundantly repaid. Now, being continued in that high state of cultivation, and the soil being full of the elements of fertility, they were in a suitable state for the change. The land being in this state, or brought to it by deep ploughing and heavy manuring for a root crop, or, in case of heavy land, first by a summer fallow and winter and spring cultivation, should, say in the month of April, be brought to a fine tilth and even surface, when the suitable perennial grasses should be sown, either alone or with a very thin sowing of barley, put in with the drill. For the sake of crop the first two years, a small quantity of Italian grass and broad clover may be mixed with the grass-seeds. Then finish with a light roller. In the autumn a tempting crop of herbage will cover the field, but leave it alone to die down in the winter. In the following spring pick off the stones and roll, and you will have an early and probably heavy crop, which cut early for hay. The after-growth you will graze, but with lightfooted stock if the surface is at all tender. The following year your crop of grasses may not be so good, but still profitable, but the third year there will, probably, be a considerable falling-off, the red clover and

Italian grass having left the ground and the perennials apparently languishing. Now is the time for the renovating with a heavy dressing of lime and earth—say 5 or 6, or more, loads of lime per acre, mixed properly with as much earth as can be procured from accumulated headlands, old hedges, ditches, or any other available source. This dressing should be spread evenly over the surface, and bush-harrowed; and at the same time, to thicken the grass plants, give again a slight seeding of those grasses that you find have held best in the land, and that appear to be indigenous in your other and similar pastures and meadows. This will resuscitate the energy of the plants, and the new seeding fill up the vacant places; and under liberal and judicious management the plants will acquire strength and depth, and from the droppings of the stock and natural annual decay of part of the growth, gradually acquire that strength and compactness which we find in old grass land, called turf or old sward. This may be considered an expensive process, and so it is; but wherever there is an outlay of capital, the question that arises is, does it pay? I unhesitatingly reply—It does, and will pay, and every year through the process, too, and at length with compound interest, inasmuch as it will have raised, and that considerably, the value of the land. Tenant farmers who feel secure in their holdings will sometimes do a little in this way; but as it involves capital, and to some extent sinks it for a future good, and takes away the immediate return expected from a good corn crop, they will not go far into it, neither can they be expected to do so. Doubtless many landlords would be glad to assist in work that would raise the value of their estates—in drainage (if required), expensive grass seeds, and partly in lime; but they would, of course, expect a fair return for their outlay, and that the said fields should be entered as meadow or pasture, not to be again broken up. Tenants need not fear entering into such arrangements, for I think you will agree with me, that tenants on grass farms, although at higher rents, are usually in better circumstances than those on farms, nearly the whole of which are arable. I should state that those of the arable fields thus brought into permanent grass that had previously gone through several courses on the Norfolk system, and received a dressing of lime every fourth year, came more kindly and freely into grass, which I attribute to their not only being in good condition, but well charged with all those important elements of fertility contained in lime, elements in which our soils on the mineral formation are peculiarly deficient, there being scarcely a trace of lime in our waters. They are largely charged with iron; but wholesome as they may be to a limited extent for animal life, it is not so for vegetable growth. There is, however, in the silurian formation, of which to the north-west the Principality is composed, lime in many localities which, although generally in a mixed or impure state, adds materially to the fertility of the soil, and on which there are good grass lands appropriated to the dairy and feeding, commanding high rents in comparison to other lands near them, and for the most part under the plough. I have been frequently struck with the great difference of the value of these lands in close proximity to each other and have been tempted to charge the inferiority of the one, the arable, in a great measure to the plough. As to what proportion of a farm it is desirable to bring into permanent grass, most depend upon the soil being naturally more or less adapted for the change. Where it is so adapted scarcely too much can be thus converted; leaving only sufficient for the alternate green and white crops for winter fodder, and these will be heavy on so limited a breadth. Where the land is not so suitable the proportion of grass will be less, and arable more; but this suitability must not be decided on the results of the old exhausting management; otherwise very little will be redeemed to grass, and the farming of the country remain very much as at present. The most suitable grasses to be sown must depend upon the nature of the soil and geological formation it lies upon, and adjacent grass lands should be examined to ascertain the species that thrive in them. Seedsmen now publish lists of grasses suited to the various soils; but the farmer should have some knowledge of what grasses will thrive in his own particular soil. The following are some of the best, and suited in larger or smaller proportions, to almost all soils—Perennial ryegrass: Pacey's and the Devon caver grass, white clover, trifolium repens, yellow trefoil, cow-grass, trifolium perenna, cocksfoot dactylis glomerata, meadow fescue, festuca pratensis, sheep's fescue, &c. I tried the new

grass—bromus schraderie—on a small patch of dry soil a few years ago. The crop was heavy, but coarse, and the seed nearly as large as oats, and it appears to be perennial. It is, I think, rather wonderful considering the immense herds of cattle driven out of this country annually, and the large quantity of dairy produce sent away, and the comparatively small return of not very rich manure, that the land is not much more exhausted than it proves to be from the loss of phosphate. The large and increased use of lime brought about by the extension of railway-carriage, compensates to a large extent for this waste, and is a great boon to our agriculture. Our arable lands may, however, be exhausted by cropping under the forcing influence of this useful mineral without the application in turn of ammoniacal manures; and also our meadows to some extent by too frequent use of the scythe without ammoniacal dressings, although they get the droppings from the stock. The phosphates may, however, be more readily returned by the application of ground or dissolved bones. In the dairy county of Cheshire the application of ground bones has been found to have a wonderful and specific effect by renewing the phosphates, and consequently increasing the dairy produce. I trust you will not think from what I have said that I consider the farming of our part of the country altogether worse than that of most other parts. I assure you that it is not so. Last summer I passed through farms in these counties that from their superior cultivation and crops evidenced such good and skilful management, that it was a pleasure and a treat to go over them. They would, in my opinion, compare well with farms of the same character, and farms of some pretensions too, on the other side of the water. Still, I must hold the opinion that the greater breadth of the lands of these counties, particularly those of second-rate or inferior quality, are in the state I have described, and for which I have prescribed the remedy. And what hinders their being redeemed from this unprofitable state? Is not the foremost, the greatest cause of hindrance—the want of application of capital to the land, for with capital the necessary labour, skill, and appliances would follow? What a superabundance of money there is frequently in the market seeking profitable investment! And where can a more honest and safe borrower be found than the soil, when employed or invested there with anything like good judgment? But capitalists require a more quick return, and look for larger interests, and so frequently lose their money altogether—risking it in some speculation with large promises—perhaps pouring it down a mine or coal-pit, never again to see the light, or lending it to foreign countries to fight, kill, and devastate, until their resources are so exhausted that at length they repudiate the debt. Surely it would tend more to the national wealth to turn a larger proportion of the great monetary resources of this country into the channels of agriculture, increasing and extending the productiveness of our lands and of our flocks and herds, instead of sending our money abroad to pay the foreigner for a large part of our bread and meat, and butter and cheese. And would not this also tend to the profit and social happiness and advancement of the occupiers of the land, to the improvement of the estates of the owners, and to the wealth and independence of this beautiful and secure sea girt isle? Then would our green fields become still greener, and “The little hills rejoice on every side,” and the exclamation would be heard “The pastures are clothed with flocks; and the valleys also are covered over with corn; they shout for joy, they also sing.”

Mr. J. THOMAS (Moreb) said he did not pretend to be an adept in farming, but he had noticed lately some farms which had been turned into pasture land. He knew, for example, one farm in the neighbourhood of Llandovery where a few years ago it was hardly possible to grow anything. By careful cultivation it had been made to produce a good crop of wheat, in fact, a most excellent crop; and a better crop could not have been found in South Wales. It had now been turned into pasture, and as Mr. Buckley had intimated, that farm paid well indeed.

Mr. BEAVAN (Llanelly) said that although no farmer there was nothing he should have liked better than if he had been brought up a farmer. Of one thing he was satisfied, that anything Mr. Buckley said would be carried out in practice on his own farm. He could speak with something like authority because he lived in Mr. Buckley's neighbourhood. It was his earnest hope that the address that had been delivered

would be the means of causing increased attention to the surface of the country until by and by it became what Mr. Buckley had so ably pictured in the close of his paper.

Mr. MORGAN (Llwyn), was glad to hear Mr. Buckley say that on a future occasion he would prosecute the subject still further. Others, he hoped, would join with him in asking Mr. Buckley on a future day to fulfil his promise.

Mr. WORRELL (Cefncheldre, Llanwrda) said he had been trying to sow the little farm he had with grass as fast as possible. There was one field in particular which a short time ago he did not consider to be worth half-a-crown per acre, but in a short time he hoped to make it worth £2 per acre.

Mr. WILLIAMS (Love Lodge) thought that every farmer ought to judge what crop was best for his own particular land and not abide by any fixed rule. Such was the plan he acted upon himself.

Mr. MORGAN (Maesallydan) felt very strongly inclined to join the Farmers' Club, and especially when he knew there was to be a paper read on grass lands by a gentleman who was able to handle every thing well. He himself had a farm comprised entirely of grass land, and he had come to the conclusion, having been in the farm for several years, that grass would pay best on the land where he was situated. With all that Mr. Buckley had said he entirely agreed, and he hoped to carry out some of the hints Mr. Buckley had given as to the improvement of the surface of the soil.

Mr. LEWIS (Llwynfedwen) perfectly agreed with Mr. Buckley's remarks, and he was certain the farmers in the Vale of Towy ought to take them home in their memories. If they looked from Llandilo to Llwynfedwen, which was a distance of about five miles, they might soon discover reasons why the land instead of being ploughed up ought to be turned into permanent pasture land. But the question after all was this, which is the best seed, and what grasses ought to be sown.

Mr. BUCKLEY: You will have that in a future paper.

Mr. LEWIS said he was glad to hear that, because they must after all determine which is the best seed for permanent pasture. He was situated on light soil, and though able to grow quite as much straw as would cover himself and his cattle, yet he was not able to turn as much of his land into permanent grass as he could wish. But, as he had previously said, he felt certain the land in the Vale of Towy ought all to be turned into permanent grass lands. On this point he quite agreed with an old friend, the late Mr. Daniel Price, of Talley, who used to ask whether any one had heard of a man who had made his fortune by his plough and horses. On the other hand, Mr. Price used to say that many persons might make their fortunes if they had good grass lands. In the neighbourhood of Llandilo, especially where there was so much competition for good grazing land by graziers, it was almost self-evident that land must pay better when devoted to grazing purposes than when ploughed up, else they would not get so good a price for the land as was now obtained. It might be said that it must be a work of time to get good arable land converted into good pasture land. Of course it could not be done in a year or two. It was almost unnecessary to say how it was to be done, because it was known that the land must be sown with good seed, and that it would require careful attention for a few years before it would be in a profitable state.

Mr. BUCKLEY remarked that the land ought to have a thick grass turf on it.

Mr. LEWIS agreed with Mr. Buckley on that point. He had also been reading in the *Farmers' Magazine* about peat as a manure. If any person had a quantity of peat on his land, he would find by mixing it up with earth and spreading it over a light soil it would make a good artificial manure, anyhow as good a manure as might be obtained for £6 or £8 per ton (No, no).

Mr. BUCKLEY differed from Mr. Lewis on this point.

Mr. LEWIS said it was well known from a paper lately published in the *Agricultural Journals* that there was so much suspicion to be attached to the artificial manures and to the feeding stuffs now sold, that a farmer could not rely on them unless they had the word genuine on them. They might take linseedcake as an example. And Mr. Voelcker had stated that although the word genuine was on the cake, yet that it was not always genuine, that it was actually worth £3 per ton

less than it was sold for. Therefore as agriculturists they ought to have something like a real guarantee on this matter, some means of knowing that an article sold as genuine was really such. He hoped he was not travelling out of the subject. They ought not to be satisfied unless they got twenty shillings for their sovereign. But to return more directly to the subject of Mr. Buckley's paper: he could tell them this that in days gone by they had been very backward in their pasture land; there had never been a proper application of manure to their pasture lands. It was impossible to make pasture lands too rich. In South Wales they were subject to a great deal of wet weather. For the last three years there had been an exception, and a little more rain might have been acceptable. The consequence of the want of rain was that they grew corn, but it might happen that season would set in suddenly, and then the straw would be laid down until it was almost impossible to rise again.

Mr. BUCKLEY observed that the real fact was the dry weather had enabled them to profit by the growth of corn on the one hand and to lose in grass on the other.

Mr. LEWIS: Quite so. And as to the application of manure to land for growing grass, he did not know that there was anything like farmyard manure if plenty of it could be obtained. And there was only one thing he desired to say further: in ploughing-in farmyard manure, and he was not speaking his own views merely on his point, he should wish the manure to be applied as soon as possible in the autumn for grazing land. Or take mowing land; in that case he should apply it as soon as possible after the grass was mown. Of course in some years, such as the last three, it would not answer, because the manure would be dried up and parched before any benefit could have been got out of it. A little rain, however, would help it wonderfully. He would repeat that as soon as the hay was off, the manure should be spread, and then at the earliest possible period it would be found that the land would be covered with the nicest green sward, as Mr. Buckley had stated.

Mr. HARRIS (Abersannan) agreed with all Mr. Buckley had said with the exception of one thing. He did not believe in putting too much manure upon the land at a time. From experience on his own land he had found that from three to three-and-a-half loads of lime per acre put on the land more frequently, caused it to produce a better crop of grass. The best seeds should also be sown. And in addition to that when they laid down land in grass they should take care to give it a good dressing.

Mr. PUGH (Manoravon) said he would make one or two brief remarks, but only on condition that the practical farmers would follow after him. He did not pretend to compete with the practical farmers, though he would endeavour to be as practical as possible in the observations he should make. First of all, he quite agreed with Mr. Lewis that they were all exceedingly obliged to Mr. Buckley for his most able and practical lecture; and personally he was delighted to hear that Mr. Buckley intended to favour the Club with a second or third paper in extension of the subject. He was himself tilling his land a little on the rough. There was some rough land behind his house which was in a bad condition, and he was going to put it into as good condition as possible. And therefore he was glad to catch any practical remarks from any of the speakers, because he wanted to know how to cultivate this land and how not to do it. In dealing with the subject of grass lands it struck him there were five or six enemies which they had to encounter. There was, first of all, their old friend, the water, which must be got rid of by draining. He would go over the list of their enemies, and hoped to be able practically to destroy them with as much effect as he would demolish them by the words he should utter. Well, it must be said of water that it is an excellent servant but a bad master. After that they came to stones. He would tell them something presently when he came back to the question of stones, which was said by a learned man, Lord Kaimes, who flourished at the end of the last century and had left his name behind. Perhaps the Chairman would not be sorry to learn that Lord Kaimes was a Scotchman. Well, besides being a Scotchman Lord Kaimes was a most excellent farmer, and when he told them what that learned man said he felt sure it would make their mouths water and their eyes twinkle. But their next enemy was ferns, which was a very difficult thing to get rid of. Indeed he should be glad to hear how to get rid

of ferns, or broom, or gorse, as it was sometimes called. He remembered reading the other day (and he always paid great attention to everything that was agricultural), some lines in an old poet who said we should get rid of our bad habits, and we should get rid of our vices just as we get rid of fern which grows on neglected soils and is to be burned. He should like to see the method of getting rid of ferns. Some people talk of burning ferns, but the question naturally arose—Is that the best way? Then again there was another enemy—moss. Some, he supposed, would get rid of that. Moss was an old enemy in certain parts of the county, which were actually overrun by it. It caused the land to be very barren and unproductive. Then last, though not least, there was the general starvation or impoverishment of the soil. That was a very important and serious difficulty to contend with. Mr. Buckley had alluded to bone manure. No doubt it was a most excellent thing. And on that subject he met with some observations the other day which he would take the liberty to quote, if the meeting would not consider him to be stretching the long bow too far. They were contained in Professor Johnson's lectures. Generally speaking it was not considered that constant grazing would tend greatly to impoverish the land. Professor Johnson stated positively that by constant grazing, such as was the practice in Cheshire, the land was impoverished. And he made this extraordinary calculation. If a cow were to graze an acre of land for 75 years—he did not say that a cow could live for 75 years, but if a cow could live for 75 years its name ought to be Methuselah; what Professor Johnson said was that if a cow was to graze upon an acre of land for 75 years she would consume a ton of bones. That might be a strange way of putting a calculation, but it could easily be seen what was intended. It meant that by constant grazing the bony nature of the soil is exhausted, and it must be replaced by bones. That, he should suppose would be considered as perfectly true. At the same time he quite agreed that many farmers were too fond of foreign manures, without making the most of what they had got themselves. A great deal of valuable manure might be obtained from the farm yard. He had seen it stated that some of those foreign manures were most detestable and most execrable. Now once more with respect to water, which had already been described as an excellent servant but a bad master. He had a sort of conviction that draining was not quite carried to the perfection to which it might have been in some parts of the country. In many cases he found that their fields were drenched or deluged by water, simply because proper watercourses had not been provided. If those watercourses had been kept clear they would not have had so much to do in the way of draining as was the case at the present time. And now he would come to what Lord Kaimes had said about stones. He said he was quite surprised that landlords and tenants did not join together to get rid of the stones. And he adds, if you only get rid properly of the stones, I am quite convinced it would pay 20 per cent. for the money. Now he was not himself quite sure whether that could be said to be a fact. He intended to try the experiment, and if he could make out Lord Kaimes' words to be true, he would take care to let them know. And there was good reason for trying to get rid of the stones in his neighbourhood, for there were a great many, as Mr. Lewis well knew, on the hills behind them. Lord Kaimes added also that the land nearest the stones was always the sweetest soil. Lord Kaimes was a shrewd Scotchman, but although that must be acknowledged still he did not see his way clear to the acceptance of what Lord Kaimes had stated. The stones, according to his advice, were to be used for building. He (Mr. Pugh) did not expect the labour of getting rid of the stones would pay either 20 per cent., or 10 per cent.; if it would only pay for the expenses he should be very glad. And in conclusion he felt exceedingly obliged to the meeting for the manner in which they had listened to what he had said. He did not profess to be a practical farmer, but the more he attended to farming the more he liked it.

Mr. THOMAS (Derllys) said, that although he agreed with Mr. Buckley that permanent pastures would pay better than any other kind of cultivation, and also as to the mode of laying down land, yet he disagreed with him as the kind of top-dressing. He had always thought that if seeds were sown in lime they would germinate for a very short time and then the roots were burned up. He had tried to lay down land in permanent pasture, using some of the best seeds he could get, but he

always found that in two or three years they became exhausted. Instead of applying lime as a rule he had tried a little superphosphate, and had found it of great advantage. He quite agreed with all Mr. Buckley had said with the exception of what he had just mentioned, and he believed firmly that if they could get more into a grazing system it would pay much better. But still there were certain parts of the country where the land could not be laid down altogether in grass. When the land had been laid down in grass for three or four years in those parts, it began to grow moss. Some said if the plough were applied to the moss the land would soon grow grass again. Others advised that the chain-harrow should be applied. He himself thought it would be better to cut up the moss. If they wished to fatten sheep they must have good fresh grass. Although grazing might be said to pay the best in the long run, still it must be remembered he did not intend the remark to apply to land which was liable to produce moss instead.

Mr. BUCKLEY thought that land of that sort could hardly be said ever to grow grass.

Mr. THOMAS said it depended on the geological formation.

Mr. SMITH (Garth) expressed the pleasure which the meeting had afforded him. It was a great privilege to farmers to attend there and hear such practical papers as had been read by Mr. Buckley, and listen to such practical remarks as had followed from several of the succeeding speakers. In Brecon, a town with which he was familiar, they had a Chamber formed on the same principle. He felt indisposed to hazard an opinion upon the topic introduced by Mr. Buckley, because he was too young to do so, but he quite endorsed the idea that permanent pasture was the best for a farmer. There was another thing to be said; great care must be taken that good seed was obtained. Ere long he hoped that they would be able to get Government to interfere in the matter, and to see that there was no adulteration of seeds. They might go to a market and find clover seeds offered at a very cheap price indeed, but that could not be done without the seeds were adulterated. He sincerely hoped a stop would be put to that, and that farmers would enjoy the privilege of getting pure seed. And as to the manure there was also adulteration in that, in fact it would be a great blessing if a stop were put to adulteration to everything. If a man wanted a glass of grog, he could not get it unadulterated always. Therefore, he wanted to put a stop to adulteration in everything. They must look to quality instead of quantity in whatever they got.

Mr. PROSSER: In beer, for instance.

Mr. SMITH agreed with Mr. Prosser even on that point. And he would insist that it was no use to recommend permanent pasture to farmers unless they could get unadulterated seed and manure. And it was equally useless to put down land in permanent pasture if it would only grow moss. He would repeat that he felt much pleased with the meeting that day. It was the first he had attended, but he hoped it would not be the last.

The CHAIRMAN said that the greater portion of his own apprenticeship was spent in following the plough, and he was bound to say he had formed an attachment for the plough. Early attachments were not always the best, and he must say he did not think that Nature had been here so kind towards this fondness of his for the plough, as she would be in a dryer climate. However, he rarely saw a field of grass without feeling a longing to have a go at it with the plough, but not for the purpose of skirting it, as was often done. And now followed the question of good fat bullocks. He feared sufficiently good permanent grass land for the feeding of such cattle could not be obtained in this part of the country. Mr. Buckley had not touched on the question of shelter which was very important.

Mr. BUCKLEY: That has nothing to do with grass lands.

The CHAIRMAN differed from Mr. Buckley on that point. And then the size of fields was another thing which had been omitted.

A VOICE: We shall have that next time.

Mr. THOMAS (Derllys): What about sowing seed in lime?

A VOICE: And what about moss?

The CHAIRMAN said there was another thing on which he should differ from Mr. Buckley, and that was about sowing seeds in lime. And again: Mr. Buckley had spoken about lime and earth, which he himself thought was a very expensive

way of dressing the soil. In that he must be robbing Peter to pay Paul somewhere. He should himself much prefer using bone or dissolved bone, or bone-meal. That was a good thing for top-dressings. And then Mr. Buckley had gone still further to speak of his expectation of seeing tenants on grass lands flourishing like a green bay tree, while those on arable lands in this part of the country, as a rule, looked more like a skeleton horse. Now, it was his own conviction that arable land did not pay in this part of the country as in other parts. But still a good deal could be said on account of the seasons. They all knew that for the last three years many of the Midland and Southern Counties in England had suffered very severely in consequence of the drought. In this part of the country he could name instances of farmers having their land entirely in grass who had been obliged to sell their cattle out in the autumn for less than was given for them. And in England, too, he could tell of a farmer who had made nine tons of cheese less last year than in previous years.

Mr. D. PROSSER: It must have been a large farm.

The CHAIRMAN said his own predilections were in favour of mixed husbandry. Mr. Buckley had also made a hit at monied capitalists. But this must be acknowledged, that money when invested in land was slow in the payment of interest, and the rate was never high. Farmers did not realize enormous profits.

Mr. LEWIS: We want Tenant-Right.

The CHAIRMAN feared they were travelling away from the original subject. There was another point to which he would refer, viz., manures. He remembered a short time ago a man offered to sell several tons of guano and wanted £2 per ton for it. He looked at it and did not like the appearance. He took a sample and sent it away for examination. Down came an answer saying that it was hardly worth anything at all. That made him very shy, and finally he was able to purchase it for 10s. per ton, and had it sent for that price, and then it was dear at the money. He believed, however, that there were many respectable vendors of manures who would not deal in a bad article. There were many of them who felt bound to keep up their character.

Mr. BUCKLEY said he should like to reply to some remarks made by Mr. Pugh. With regard to ferns or gorse, they were very deep-rooted things; ferns were particularly so. He recollected a farm he began to cultivate in 1865 which was half covered with gorse or ferns. And he had a field in his eye now which he had ploughed up, intending it to be for permanent pasture. The field was ploughed very deep, so deep as to bring up a little of the red sub-soil. Now he found that what the plough turned up was perfectly black with the roots of ferns. Well, that was in 1865. After having ploughed it up he had a summer fallow, and then limed it. Afterwards he took a crop of roots out of it. He had intended then to have sown some perennial grass seeds in it, but found he could not, for the gorse seed lay dormant in the land. In the second year of clover he found some ferns coming up all over the field, and this led him to determine to go through another course, and that it would be necessary before he could get rid of the fern. He would therefore advise Mr. Pugh, after ploughing up the land behind his house, to let it lie in fallow and then take a crop of roots, and then go through with a crop of cereals. If necessary, he should recommend that the process be repeated after manuring the land well, and by that time he believed the gorse would all be got rid of, and the land would be in pretty good order, and there would be a chance of laying it down in permanent grass. He had several fields which he had treated in that way, for he found it impossible to get rid of the gorse in one course. The seeds remained in the ground, but a double course would complete the business most effectually. With reference to what Mr. Lewis had said about peat he did not think there was quite so much value in it as Mr. Lewis had represented. He had tried it. They knew that peat was an organic vegetable matter, and no doubt it was most useful, and would be very valuable when

added to the dung heap. Lime mixed with the peat would tend to reduce it, and this mixture might make a valuable top dressing. There was one remark he wished to make with reference to what had fallen from the Chairman, who said he was very much attached to the plough. Well, the Chairman was a Scotchman, and perhaps that would account for it. With regard to some remarks made by Mr. Thomas about mineral soils, he had no doubt that lime would have much greater effect there than in some parts of the silurian strata where there was a great deal of lime. But the characteristics of the silurian farms varied very much. If they went down to Whitland they would find most beautiful grazing land there, even to the very tops of the hills. There were even beautiful permanent grass lands to be found. He had been recently invited to visit an estate there, and he was perfectly astonished to find on that estate something like 300 or 400 acres laid out as grass lands. He was taken to the top of the hill, and a Mr. Blaithwaite had asked him to explain how it happened that there was so much grass lands reaching to the very hill tops. Such however was the fact.

Dr. HOPKINS (Carmarthen) had listened with astonishment to some remarks which had been made with respect to furze. Some lands in this part of the country were rather poor, and Mr. Buckley had proposed to eradicate the furze. He could tell Mr. Buckley this, that he had himself farmed land when furze were indigenous to the soil. And besides, in certain seasons furze formed one of the most important crops that could be grown on land when it would scarcely produce anything else. A good crop of furze was often worth £5 per acre, and could be produced from land which otherwise would not be worth half-a-crown per acre. Were it not for furze their mountain sheep would starve, not only from want of shelter but from want of food. They should remember that a divine Creator had sent nothing into the world that was simply useless, and furze having been made to grow out of the soil farmers ought to endeavour to find out their use. Now he believed he had the pleasure of finding out its use on a large scale. Even cows when fed partly on young furze would give excellent butter, and without any strong colour. Therefore furze must not be despised as some were in the habit of despising them. Now, with regard to ferns, they were rightly regarded as one of the great enemies of grass lands. The only plan of dealing with them was to mow them down with a machine twice in the year, and leave them on the ground for the purpose of manure. That would make the grass so much the better, for the decayed ferns formed excellent food for the grass. Mr. Buckley had also spoken of farms covered with docks and similar plants. Now, he had yet to learn that docks, &c., could be produced on land worn out; he always regarded the presence of docks as evidence that there was a good deal of manure in the land. They would never find docks anywhere except in garden land that had not been properly cleansed according to the rules of farming. As a general rule, grass lands might be more cultivated in this part of the country by irrigation. If they would read the prize essay, published some three or four years ago on draining, which was written by a Scotch gentleman, they would find him to state as Mr. Pugh, their late member, had said, that water was one of the best servants they could find anywhere, but it was a miserably bad master. Water ought to be taken from the wet ground, and turned over the dry. If that were done, their crops would be most materially improved. One or two remarks he also wished to make about mosses, and some other plants growing on lands that have been long grazed. In Cheshire it is said that farmers are accustomed to place bonedust on such land. Now, anyone versed in chemistry knew that bonedust contained something like 60 or 70 per cent. of lime alone. That being the case, they might as well apply lime at once. Besides, it would be much cheaper to do so, the grass would be fresher, and the cattle would eat it much more greedily, and leave nothing behind.

The discussion then terminated.

THE STOWMARKET FARMERS' CLUB.

THE FOOT OF THE SHEEP.

At the last meeting the subject for discussion was the Management of the Feet of Sheep in Health and Disease, to be introduced by Mr. C. W. Sutton, Stowmarket. The chair was taken by the President of the Club, Col. F. M. Wilson.

Mr. C. W. SUTTON read the following paper: In the paper which I am about to read to you I have endeavoured to make everything I have to say plain and practical, and, without any reservation, tell you what I conceive to be the best mode of treatment of the feet of sheep in health and disease. I am sure stock-breeders are daily becoming more and more impressed with the truth that "prevention is better than cure," and are employing more skill, and bringing science as well as capital into the management of all domesticated animals, to improve their sanitary condition, to supply them with suitable food and sheltered pasturages, and by all the means in their power protecting them from the ordinary causes of disease; and I rejoice to say, without fear of contradiction, that in all these respects the farmers of our county bear favourable comparison with those of any other. The causes, symptoms, and treatment of diseases of the feet of sheep cannot be too well understood, and will amply repay any owner who will be at the trouble to master them. Wherever we meet with these diseases in a flock they are a source of irritation; they affect the pocket of the farmer, the patience and temper of the shepherd, and entail a fearful amount of suffering and loss of condition upon a valuable animal. I have prosecuted the study of this subject with much pleasure, and firmly believe that a careful consideration of and acquaintance with diseases of this nature should be more generally practised, if from no other motive, at least because it is the greatest economy. I have endeavoured to make this paper more interesting to you by preparing the feet of several sheep, carefully dissected, that you may see and understand more fully the nature, origin, and seat of the various diseases to which the feet of sheep are liable. I have here part of the fore-leg. The foot is divided into two toes or digits, each being covered with a hoof. This is the crust, this the sole, and this the heel, furnished with an elastic cushion. The crust is designed to resist the wear and tear to which the foot is exposed, and though the sole covering of the heels looks and feels soft, it is beautifully adapted to the purpose it is intended to fulfil, viz., to resist injuries from concussion, to which the sheep of mountainous districts are liable; and it seems to have the power to resist any amount of cutting or laceration to which, in a state of nature, it could fairly be subjected. In this specimen I have removed the hoof, to show the coronary ligament, the laminae which lie immediately under the crust, this beautiful pad upon the heels, and the villae, a porous-like structure which unites the sensible with the insensible sole. The coronary ligament connects the skin of the leg with the parts contained within the hoof—it is formed of dense fibrous tissue, interspersed with blood-vessels, and is the structure from which the hoof is formed. These are the coffin bones, these the coronary bones, these the navicular bones, and these the tendons which serve to connect them, the joints exquisite in form, and their beautiful lining, the synovial membrane secreting what we call joint oil, and the cartilage of which the joint-ends of bones are formed. Now, between these digits, or clays, or toes, and a little above them, we find a small hole called the interdigital canal; it passes downwards behind and between the toes; the mouth of the tube is covered with hair; its purpose is to secrete a fluid which shall keep the parts oiled or softened, and thus prevent any ill effect which might otherwise ensue by the constant rubbing together the toes or digits are subjected to. Another important office this secretion fills is to prevent the dirt getting hard and dry between the toes, and proving a constant source of annoyance and lameness; and for a further interesting and more detailed description of this organ see Youatt, on diseases of sheep, page 524. It has been my pleasure to make these preliminary remarks to give you a better idea of the nature and structure of the parts which are

affected by some of the diseases which will form the subject matter of this paper. We will first consider epizootic foot-rot or murrain. The great secret of success in curing this disease is in giving early and unremitting attention to it in the first stages, and this will apply to all the diseases of the feet I shall have to speak upon. A few days of neglect may lay the ground-work of maladies it may take months to eradicate. I am sure that those of you who have had any of these cases to contend with will bear me out in my opinion that nothing gives greater annoyance and vexation than to have a flock of sheep requiring the constant attention and care in dressing the feet of those affected, and examining any that show symptoms of lameness. Epizootic foot-rot, or murrain, is the result of contagion, which is the common cause of its diffusion. It is an inflammation of the skin connected with the hoof, involving the laminae and villae (which, you will remember, I said were the parts connecting the sensitive with the insensible sole), and leaves inflamed and very tender surfaces, discharging watery matter. If this stage is neglected, ulcers form, which secrete a whitish fluid matter with an offensive smell, and are found upon the fore feet as well as the hinder ones without distinction. As soon as a sheep appears lame remove it at once to a dry situation, and carefully cleanse the foot with soap and water if the sheep have been kept in the dirt; if they have been upon grass the feet will not require it. Now, you may say we can get the dirt off without soap and water; so you may. But you cannot get the part affected so clean as with it. The exudations of matter, &c., may be dried upon the limb, and of such a nature that they will not yield to the action of water alone; and, what is more important still, the cleaning of the part shows you exactly where to cut. Then examine the foot, and if the symptoms I have just enumerated are present, get some tow moistened with chloralum one part, water ten parts, or a solution of sulphate of copper (blue vitriol)—about half an ounce of blue vitriol to a quart of water, and bind the tow on the part by means of a narrow calico bandage. If the weather is wet and the ground moist, touch the part with undiluted chloralum first, and give the following aperient drink if the mouths are sore as well as the feet, and the sheep are feverish: Epsom salts three ounces, common salt one ounce, sulphur one ounce, to be given in about a quarter-pint of water, or a little more if necessary. Let this drink be given slowly, and should cough or any sign of choking arise, do not persist in giving it—rather wait and try again when the cough or choke is gone. If feverish symptoms continue, substitute for the above this fever drink: Nitre one ounce, sulphur one ounce, coarse sugar one ounce, in water sufficient for a drink. If the animals affected are lambs, half the dose of the above drinks should be given and repeated once a week. I have found gentlemen are often reluctant to administer any internal remedies in these and diseases of like nature amongst their sheep, and thus the chance of cure is lessened, or at least retarded. And no wonder they do show this reluctance when the trouble of giving drinks to a flock of sheep is taken into consideration. But to return. Change the tow and lotion every second or third day, and at each time of dressing carefully remove any portions of hoof that are detached. This treatment will generally be found all that is necessary for the cases taken early; and if there was no other side to the question all would seem to go on most smoothly, but unfortunately, very often by the distraction of other business matters of the owner, or on account of carelessness or indifference on the part of the shepherd, the disease goes on without proper remedies or treatment, and the result is that the upper part of the foot, or coronet, will become swollen, matter forms, and sinuses (the result of the confined or pent-up matter) running in various directions, which, if allowed to go on uninterrupted, would detach the whole hoof. From this stage the ulceration rapidly progresses, eating its way on all sides; the poor animal suffers too much to be able to feed, and loses flesh fast. Supposing, then, this state of

things to exist, first carefully examine the feet, removing every particle of the hoof that is undermined or separated, as it will never re-unite and become sound, but on no account cut away that part adhering closely to the foot, unless it turns inwards, as is sometimes the case; then it may be removed. After this is done apply a warm poultice of carrots or turnips, and renew it twice during the day if practicable. Place the sheep in a quiet and clean place, and give the aperient drink after poulticing for a day or two, or until the part has a cleaner and healthier appearance; use the chloralum or sulphate of copper lotion and bandage; and if proud flesh appears to grow too rapidly, and the new horn does not grow, just touch the parts with caustic, or sprinkle a little dry powder of sulphate of copper over them; if they are feverish, give the fever-drink, and by no means let hot caustic lotion be applied without control over every part of the highly sensitive and naked surface of the foot. This disease rapidly spreads by contagion or contact with the matter from infected animals; and if your sheep are driven over a road upon which a diseased lot have recently passed there is great risk of its being communicated. If, therefore, epizootic foot-rot should break out, move the whole of the flock to some part of the farm not at that time used for feeding sheep; separate the healthy from the diseased, and keep the sufferers in a dry fold or strawyard as a hospital to which any fresh cases may be at once removed, and do not allow those that have been affected to mix with the sound sheep until every symptom of the disease and lameness shall have gone. I now come to visicular epizootic, which is what we are all familiar with as foot-and-mouth disease. This disease first appeared in the south-eastern parts of England, about 1836, and has since paid a visit to almost every part of the United Kingdom. But happily, like almost all epidemics, it seems to be gradually losing its severity, until now many gentlemen simply do nothing for it but careful nursing; some let them take their chance, others half kill them with dosing, but the wisest plan is to give a simple remedy, such as salts and sulphur, or salts and nitre in proper doses with careful nursing. There is no doubt that contagion is the cause of its spreading, and in nineteen cases out of twenty we can trace its origin or outbreak to sheep that have come from large fairs or marts, and seldom hear of a case where strict measures have been adopted for keeping them out of the way of contagion. The symptoms and effects of this disease are too well known by most farmers to need any description from me; therefore I would simply say it is an inflammation of the mucous membrane and skin, first noticed by the appearance of little vesicles or blisters on the surfaces of those parts uncovered by skin or hair. The mouth and tongue are generally dotted with these little blisters, saliva in a frothy state drains from the mouth, which is hot and tender, and renders the animal unable to eat or unwilling to make the attempt. Lameness is the next symptom; the animal walks upon his heels or seeks his food upon his knees. Sometimes the hoof begins to separate from the foot; blisters form around the coronet or juncture with the hairy skin and hoof, and between the clays. If the case to be treated is severe, I would begin by giving the aperient drink I have just mentioned, and follow this in a day or two with the nitre and sulphur; but in all ordinary cases, indeed to the bulk of the flock, I should only sponge out the mouth with a lotion composed of chloralum and water. Make it so that the lotion bears a somewhat brackish taste, or about one part in twenty. I ought, perhaps, to tell you that chloralum is a comparatively new remedy, but being non-poisonous and free from smell, and, moreover, having all the curative power and properties of every known disinfectant and anti-putrescent, will supersede every one of these preparations now in use. I have seen it cure as bad a case as could be in three dressings; if this chloralum lotion is used, and the feet are kept clean and the animal quiet, giving good, soft, and nutritive food, recovery will take place in about a week. If the feet are any trouble, remove any loose horn, and dress them with chloralum solution or vitriolic lotion, as recommended for murrain; an abundance of short dry litter is a great advantage. Sheep suffer most in the feet in this disease, and it is generally only necessary to treat them. We now come to a disease which you will understand more readily by having seen the dissected parts. I mean a lameness arising in the canal I have spoken of, caused by sand, gravel, thorns, or foreign bodies becoming inserted or having worked into it. Youatt

says, in 1523, Sir Anthony Fitzherbert, when speaking of this disease, attributes it to a worm in the sheep's foot, adding that the hole by which said worm had entered was still visible. Let us be thankful (though we have much to learn) we are more enlightened now. Any or either of the causes I have named may excite and set up a considerable degree of local inflammation, which may also involve neighbouring parts, causing great lameness; indeed the poor animal is often found seeking its food upon its knees. Sheep are liable to be afflicted with this disease at all times and seasons, but most frequently when the weather is hot and dry. Now, once and for ever, forbid the use of the rope or yarn being drawn backwards and forwards between the digits, as is often done, the poor animal suffers quite enough without that. First, get the foot clean, as I before recommended, and see if there is any foreign body to irritate the parts, which remove by a suitable instrument. Bandage the leg and foot lightly, and keep it wetted with equal parts of vinegar and water, or, what is better still, this lotion: Arnica (tincture), one drachm; Goulard's Extract, one drachm; water, eight ounces. After this, if the inflammation does not go, try a poultice or two, and when the discharge is of a healthy character smear the parts twice or three times a-week with nitric oxide of mercury ointment, keeping the bandages still on until a cure is effected. There is a lameness which arises when matter is formed and confined in a cellular membrane of the foot, and appears at the top of it; it is an abscess brought on by inflammation, sometimes the result of a diseased state, or may be caused by a bruise or blow, accompanied by heat and swelling of the leg. Here you must first poultice to encourage the formation of matter; if this course is adopted, and the abscess breaks there is not much difficulty in curing it; encourage the discharge for a short time, and then lightly bandage the foot up and keep it moist with a solution of chloralum, one part, in water 20 parts. Should the case prove troublesome, and the swelling does not come to a head, make an incision into the most pointed part of it, or where it feels softest, and then poultice, bandage, and dress as above directed. Foot-rot, as we understand the term, is the disease we are most familiar with, and although existing from earliest times has become more prevalent during the last 50 years—in some measure owing to the increased weight we get our sheep to at an early age—but chiefly to their being folded whilst consuming root crops upon land that is heavy and moist, or being kept too long upon wet undrained pastures, in some cases never being removed from it so long as the food lasts. The hoof becomes softened by constantly standing in moisture, is overgrown, soft, and lacks tenacity, or toughness, the crust of the toe turns inward upon the sole, or the outer insensible covering of it is worn down. When sheep that have been subjected to this state of things are driven any distance along a hard road to fair or market, their feet, in the tender condition I have described, are bruised, and a local inflammation is set up which ends in matter forming, and the production of what we call foot-rot, and thus we so often hear of it for the first time as occurring "in a lot I bought so and so." Another and very fruitful source of foot-rot is, the hoof is allowed to grow out of proportion, the crust especially, and the overgrown parts break off, exposing the highly sensitive parts; earth, sand, thorns, &c., work into or wound these places, and inflammation here also is set up, matter forms and lameness follows. Mountain or Down sheep are not subject to this disease, as their feet are subject to a healthy wear and tear in search of their food, and are not placed in a moist situation where all this mischief we have considered is commenced. Whenever a sheep is lame let the feet be examined without delay, carefully remove all dirt, and pare off every particle of the foot that is loose, ragged, or unsound, and detached from the sensitive parts, but let this be done, if possible, without drawing blood. And this, let me say, is the great reason why, in bad cases, the foot should be washed, for when a foot is cleansed you can see exactly the part that requires paring. I have often seen a foot pared unnecessarily, because the operator could not see exactly how far to cut for the dirt covering the part. Here let me say a word about the knife, which is too often very unsuited for the purpose, being so round at the edge by constant sharpening that the hoof, in the act of paring, is dragged and haggled, giving the poor animal pain that might be avoided, and aggravating the local inflammation. A small pocket drawing knife, or a knife kept for the purpose thin to the edge, will be best. When the

feet are properly pared, let them be well wetted with a lotion of one part chloralum to 20 parts of water; afterwards dust the part with dry oxide of zinc, or lightly smear with an ointment composed of equal parts, finely powdered, sulphate of copper, charcoal, and lard. After either of the above dressings, cover the feet with tow, and bind it with broad tape or calico. If, after one or two dressings, there is any appearance of proud flesh, dress the feet with a powder of equal parts of powdered charcoal and blue vitriol, or touch them with a hot iron or butyr of antimony, but remember these caustics will do more harm than good if applied indiscriminately to healthy as well as unhealthy surfaces. At the beginning of my paper I promised you I would be practical, and I think some of you may be inclined to say, "I should like to see him dress and bandage, and bother about with a whole flock so;" therefore, I would suggest that in such case I would omit the bandage except in the worst cases, and let the rest of the affected flock, after dressing, be folded with a plentiful bedding of dry straw, or kept as long as it appears desirable to you upon a dry situation, either a barn floor, straw-yard, or pasture. This is absolutely necessary, for if the foot is exposed to the original cause of the disease the evil will return in an aggravated form. Tow is a valuable substitute for the bandage; it has a two-fold advantage in stimulating the parts and protecting from dirt or flies in summer. If you meet with ulceration and much discharge, use a poultice upon which some powdered charcoal has been sprinkled, and afterwards use the dry oxide of zinc dressing, as recommended above. Rheumatism is a disease which sometimes affects our sheep, and is known by various names, as joint garget, bustian foul, &c., prevalent in low, marshy, undrained districts, with little or no shelter from cold easterly winds, lying upon damp or undrained ground. It principally seizes young lambs from one to three months old; but old sheep are also liable to its attacks. I will not trouble you with the differences of opinion amongst physiologists as to the localities or textures of the bodies which become the seat of pain and inflammation in rheumatism, but simply say it most frequently affects the large joints. Youatt makes very short work of it, for he says, "when once this disease has seriously attacked an animal the malady will seldom be eradicated, therefore prepare it for the butcher. But if the animal is not good meat, and you are inclined to treat it rather than adopt this unscientific plan, and thus give Nature a chance, you must pay regard to the following symptoms: Young lambs are unable to follow the ewe, and appear dull and unthrifty, and then extreme lameness with swollen joints, pain, and heat, &c.; if it is confined to the extremities try warmth and this "Stimulating Embrocation"—take of turpentine, liquid ammonia, tincture arnica, linseed oil, and laudanum, of each equal parts, and well rub into the parts affected. In old sheep give a dose of castor or linseed oil first, and follow this with powdered colchicum 10 grains, powdered nitre one drachm, powdered opium 10 grains, grey powder one scruple—to be given in gruel twice-a-day for a few days, as well as use the above embrocation. It has been suggested to me that I should touch upon the subject of the relative liability to disease of the feet, and perhaps it may not be uninteresting. There is a very good account given by Mr. Black in Youatt's Work on Sheep. He noticed the progress of foot-rot amongst certain sheep of various breeds that had been turned into the park. He says that black-faced Hampshire Downs were the first affected, and not only first, but to a greater degree than the others (and I find this accords with the experience of some gentlemen in this county); those next affected were a cross between the black-faced and the Cheviot; then the Cheviot; and last and least of all, the Leicester. He then goes on to say, "I was at a loss to know how to account for this peculiar liability in the different breeds while all are exposed to the same circumstances, but by carefully watching the flock I found the black-faced got up earlier in the morning and rambled about amongst the dew, thus continuing the habits they were accustomed to on their native Downs. The other breeds seemed to have the disease in the order in which they resembled the black-faced sheep, &c., &c." Now it is a subject of remark that Down sheep removed from their native pastures to low or moist or heavy land are peculiarly subject to foot-rot, and I shall be glad to hear the experience of the practical men I see around me upon this point, and I hope we may draw from this a useful conclusion as to the kind of sheep that should be selected as best for the different soils

and pastures, but especially for our own. And now, having given you to the best of my ability a necessarily condensed account of the treatment of the feet of sheep in disease, I will say a few words of the management of their feet in health, in order that we may be able to prevent, or if not at least to mitigate, much of the evil attendant upon these diseases. 1st. Never buy a lot of sheep you know nothing about, and mix them with your flock until you are well satisfied that they are sound of limb as well as skin. 2nd. Never keep sheep in confined yards upon hot dung. When they are kept in yards the litter should be constantly renewed and kept dry. Their instinct teaches us this as well, for they will themselves select the driest places in the yard. 3rd. Never lamb down upon low undrained lands. Let every fold at such time be well attended to and kept supplied with dry bedding, and see that they may lie comfortable, especially at night, by doing which you will prevent attacks from cold and damp, producing rheumatism. 4th. Avoid giving sheep too large quantities of beans or other dry grain to eat, for although of the greatest service in moderation, in excess are apt to produce sanguineous congestion, or set fast. 5th. As diseases of the feet so often arise from a distorted form of the hoof, and consequently unevenness of pressure, I would therefore recommend a more careful supervision of the feet than is usual, especially when folding upon moist ground. I would then pare them carefully, shortening the toe if too long, and paring down the crust, especially if it is growing inwards or overlapping the sole. Indeed in most localities ordinary foot-rot may be entirely prevented, and in every situation its prevalence and severity may be greatly abated by the simple expedient of paring every two or three months, and if there is the slightest symptom of seediness or unsoundness at the periodical examinations apply the proper remedy at once, and if your sheep were occasionally driven on a hard road it would do their feet much good. 6th. Do not use the application to the feet one-quarter the strength that is usual. You will note I said about a quarter of an ounce of blue vitriol to a pint of water would be strong enough, and in practice you will find it so. I have made a point of explaining this by having noticed the evil attending the use of too strong caustics, which dry up the parts that are healthy as well as diseased, and the next thing is you have a crack come in the skin between the clays with hardened edges that takes more healing than the original disease, and is a source of much pain to the animal, and might be avoided by using the dressing of proper strength, and not applying it to healthy parts as well as diseased; and if I may be allowed to offer one more suggestion it would be that your shepherds be given a better chance of education upon these subjects, and their intelligence promoted by every means at your disposal. For instance, if we had them here to-night their minds would be set to work by what they will hear, and their intellect once set going you would find your orders and wishes carried out with more precision, sound judgment, and skill, and all these attributes are necessary at one time or other in the proper management of your flock.

The PRESIDENT said the paper was so good, so exhaustive and scientific, that there was very little additional to be said on the subject, and the excellence of the paper had suggested to him this idea; there had been several very interesting meetings in connection with this Club, and the papers which had been presented were extremely good and practical, and would be found valuable to farmers as a reference, and he thought that they might be printed at length with much advantage at the end of the year. It was perfectly true that reports appeared in the local papers, but the members did not always keep the papers as a reference. By presenting them in the form of a pamphlet the suggestion which Mr. Sutton had thrown out might be carried into effect, viz., of informing the men in their employ upon the subjects discussed in connection with this Club. He merely threw out the suggestion, and the question of expense was, of course, a very material one, and he did not know whether the funds of the Club would admit of the suggestion being carried out.

Mr. J. J. HATTEN said he had a lot of sheep which, while they were on his occupation, were sound and healthy. He sold them, and subsequently on seeing them he found that many of them were lame with the foot disease. On inquiry he was told by the gentleman who bought them that as soon as he took his sheep from the land and placed them in the straw-yard they invariably turned lame. That was the case

with the sheep he (Mr. Hatten) sold. He had them a long time, and whilst they were in his possession they were quite healthy.

Mr. PAGE : Had they been mixed ?

Mr. HATTEN : No.

Mr. PAGE : Were they on sound land ?

Mr. HATTEN : Yes, perfectly sound land.

Mr. WOODWARD asked if they were subjected to the same treatment they had been used to when in Mr. Hatten's possession.

Mr. HATTEN : I think so.

Mr. WOODWARD said that if the sheep were subjected to a different treatment it might be easy to understand the cause of the breaking out of the disease. He himself, understood but very little about the disease in sheep. His plan was to keep the animals on the land as much as he could, but he had been informed that if sheep were put into a yard where there was other kind of manure, it was likely to create a fever in the feet, whereas if the yard was properly cleaned out and clean straw littered down, the sheep would not take any disease. The subject which had been so well introduced for the consideration of the Club was an important one, and good must result from discussing it.

Mr. CHAS. TURNER said he had had some little experience in reference to the disease in the feet of sheep. His opinion was that there was a great deal of difference between the foot disease and the real foot-rot proper, and many people did not understand this difference. As far as the foot-rot was concerned, very few people knew what it was, and it appeared to him that it was a very difficult thing to deal with, and that it was almost impossible to eradicate it altogether.

Mr. JAMES MATTHEW remarked that when his sheep had been taken with the disease in the feet, he had tried the mixture Mr. Sutton had spoken of, and had found it cured them. As to placing sheep in a yard, he believed it was invariably found that it was followed by disease in the feet. At least that was his experience. He remembered taking some sheep off land and folding them in a stack-yard: they were littered down with clean straw twice a day, and after three weeks they came out with the foot-rot. When they went into the stack-yard they were quite clean, and he could not account for the disease breaking out.

Mr. J. TURNER said his practice had been to keep his sheep in the yard. He put them into the yard a fortnight or three weeks before Christmas, and he kept them there nearly all the winter. He was in the habit of letting them out on to a stony walk night and morning, and he might say that he never had a touch of the foot-rot. His sheep had had a little touch of the foot-disease, but by the application of certain remedies recommended by his shepherd they were always cured. He could not therefore agree that the keeping of the sheep in the yard was always the cause of the foot-rot.

Mr. JAMES MATTHEW : You were in the habit of turning them out on to a hard walk.

Mr. TURNER : I let them walk out, but they only went into my stone-yard.

Mr. SUTTON : I recommended a drive on the road.

Mr. NOBLE referred to a lot of ewes which he bought. He noticed that some of them limped, and he had some of Mr. Sutton's liquid, and he thought they were cured. When the turnips were finished he put the sheep into the yard, and they soon began to limp again. The yard was quite free from other manure, but they were not there a week before they became lame; they were too heavy in lamb to dress now, but as soon as they had lambed he should dress them with lotion again, and he had no doubt they would be quickly cured.

Mr. WOODWARD said he should like to know if foot-rot was not the result of neglected epidemic in the foot. It was his opinion that it was so, and he had been led to believe that the best cure was a little opening medicine, and he generally used a little salts.

Mr. MAKINS said there was no doubt but that a neglected case of foot-and-mouth disease would result in the foot-rot. There were, of course, a great many different diseases in sheep, and in some animals the foot-and-mouth disease passed off, doing apparently but little injury to the animals, and perhaps in other cases it was just the reverse.

Mr. H. A. OAKES said he should like to ask Mr. Sutton, or any other practical man present, what the foot-rot was to be attributed to. Was it not the result of a disorganised state of

the stomach of the animal? It must be something like the thrush in the hoof of a horse; and if a horse was not healthy, disease must show itself somewhere, but by a certain amount of care and attention, and with proper diet, a cure was invariably effected.

Mr. SUTTON said there was frequently a good deal of confusion between the foot-and-mouth disease and the foot-rot. In regard to the former, the animal was invariably seen on his knees, and if it was turned up, and the hoof examined, a good deal of matter would be seen, and the hoof might be moved about, and in some cases almost detached. The foot-rot was brought on by gravel and sand working into the foot, and, neglected, it spread to the highly-sensitive part he had pointed out in the illustrations before him. This was more of a mechanical disease, while the other was more a disease of the stomach and of the system generally—a kind of irruptive fever. In foot-rot the leg of the sheep would be found as cool as possible, and the disease was simply local, and was produced by causes which acted locally.

Mr. M. MUMFORD said he had on his farm certain land which was altogether unsuitable for sheep, and his animals had suffered from the foot-disease severely; in fact, in about six months he lost £150 by sheep that had the foot-rot. He did not know that anybody would keep sheep under the circumstances so long as he did—his were wethers, and he kept them three years. He kept them because he could not get rid of them (laughter). He pitied Mr. Hatten if he was in the same position with the sheep he kept so long. His (Mr. Mumford's) undoubtedly suffered from the foot-rot, and it appeared to him that that was a disease very difficult to deal with. It seemed to him almost a case of "Best curing 'em a little at a time and sell 'em; but I pity the other poor devil that get 'em."

Mr. HATTEN reminded Mr. Mumford that the sheep he (Mr. Hatten) had referred to as being kept three years were quite healthy whilst they were in his possession.

Mr. MUMFORD : I am sorry I pitied you without a reason. I pity the man you sold them to.

Mr. WOODWARD questioned whether sufficient care was taken in keeping the hoof pared.

Mr. M. MUMFORD : It appears that there is no trouble in keeping sheep in the yard if they are managed properly; but there is not everybody whose name is "John Turner." He seems to be one of those men who acts as he ought to do, and he is rewarded for it; but there are a great many people who want to be rewarded without acting as they ought to do, and they must therefore expect to be punished. Walking sheep out of a yard on to a hard road is of course very different to walking them on a meadow. I have been to Mr. Turner's, and I never saw the stony yard he has spoken of. At least my horse never stumbled over the stones.

Mr. TURNER : It is a hard road.

Mr. MUMFORD : You said stony.

Mr. TURNER : You cannot get a hard road in our county without it is stony.

The PRESIDENT said it seemed that there were three or four different sorts of diseases in the feet of sheep; but they were in the habit of lumping them all together and calling it foot-rot. There were diseases which were highly infectious, and some that were not, and he should like to hear Mr. Sutton further on this matter.

Mr. SUTTON said he had spoken of complaints which were highly contagious. There were, it was true, many diseases of the foot which were called foot-rot, when in reality it was not so. Mr. Sutton then illustrated, by means of the specimens on the tables, the different diseases and the causes, and the parts of the hoof where the grit and the sand worked in. One disease was inflammation of the interdigital canal, which was brought on by foreign substances getting in and setting up a local inflammation. An abscess or whitlow, too, was frequently brought on by a blow, or by treading upon a stone, or some other cause.

The PRESIDENT said he supposed that these two diseases were not infectious.

Mr. SUTTON : Decidedly not.

The PRESIDENT : If a man has boils he is not considered an infectious subject, but if he has small-pox he is considered to be decidedly so.

Mr. SUTTON : They are not infectious, but are simply local.

Mr. FARROW mentioned a case in which a relative of his

had a large number of sheep suffering from the foot-and-mouth disease, and on seeking advice, he was told that the best course to adopt was to select a shed and have the floor saturated with fresh lime, and keep the sheep upon it 20 minutes at a time, twice a week. They very soon recovered. Soon after a large quantity of swine were put into the same yard, and they fell down with the disease, and they were a good deal worse than the sheep had been. But as far as the sheep were concerned, the lime appeared to have a very beneficial effect. About two months ago he bought a number of sheep, and he afterwards noticed that they were lame, and he sought advice, and was told that the sheep had got the foot-rot. He did not know much about it, and he became alarmed, separated them, put them into a dry shed with plenty of litter, &c., dressed them a few times, and they got well, and he had no further trouble with them.

Mr. GOSLING, after referring to a large dealer, a Mr. Warnes, who was in the habit of buying any diseased flock because he was certain of a remedy, spoke on the subject for caustics, and mild and strong applications of sulphate of copper.

Mr. WOODWARD said he could also bear testimony to the serious way in which pigs suffered from the disease. When he first had the foot-and-mouth disease amongst his cattle, his pigs fell down with it, and he lost the young ones. He had come to the conclusion that it was a kind of fever; it was an epidemic and not the foot-rot. If a farmer purchased a lot of beasts such as were to be seen last year and mixed them with the pigs, the latter would almost sure to take it, and suffer even more than the cattle. This was not foot-rot, but what was termed the foot-and-mouth disease.

Mr. SUTTON expressed his opinion that under certain circumstances caustics were highly necessary. In his paper he had recommended sulphate of copper without any dilution excepting it was mixed with a little charcoal, and it would then act as a disinfectant as well; but what he contended was that caustics applied without judgment did a great deal more harm than good.

Mr. HATTEN: Do you think pigs would take the foot-rot proper?

Mr. WOODWARD: I have had no experience upon that point.

Mr. MUMFORD: I had to try everything I and others could think of. We tried the weak and the strong dressing, and we cut the throats of those we could not cure with either application.

The Rev. H. HILL alluded to the great difference there was between the foot-rot and the foot-and-mouth disease, and he referred to cases where pigs had had it, as well as cats, and he knew of a dog which had died, no doubt, from the same disease, but the sheep themselves had got quite clear of it.

The PRESIDENT: I have no doubt but that a good many animals die from the foot-and-mouth disease—this has been a very hard winter.

The VICE-PRESIDENT stated that he put some sheep, suffering from the foot disease, into a barn with some dry straw, and, by a little attention, they quickly got well.

Mr. WOODWARD said he had a proposition to make in reference to the suggestion which was thrown out by the President as to printing the papers and discussions of this Club. If these papers were of any value—and undoubtedly they were—it might be well worth while having them printed at the end of the year in the form of a pamphlet, if the Club could afford it, and he was led to believe that it could. He would therefore propose that the papers and discussions should be printed and circulated amongst the members. A pamphlet of this kind would no doubt be valuable as a reference when disease broke out amongst the sheep, pigs, and other animals.

Mr. HUGHAM, the Vice-President, seconded the motion, expressing his concurrence in Mr. Woodward's remarks as to the value of such book as a reference.

The PRESIDENT said it would add materially to the expense, but he should like to see a few illustrations introduced of specimens like those shown this evening of Mr. Stearn's piggeries. By this means an excellent book could be produced for presentation to the men employed on their farms.

Some discussion took place on the subject, and it was suggested that all the papers that had been read at the Club should be reprinted at the end of the present session.

Mr. FARROW said there had been some very able papers produced, including the first, by their old friend the late Mr. Noble.

Mr. PAGE said he should like to see the papers printed from the first. The discussion meetings would end about April, and he thought it would be the proper time to have the book printed. He thought it would be best to leave the matter in the hands of the committee, for them to consider what was the best course to adopt. In considering this matter, however, due regard must be had to the funds.

THE LAVENHAM FARMERS' CLUB.

At the last meeting the subject for discussion was Agricultural Chemistry.

Mr. J. WIGGIN, F. C. S., of Ipswich, said: The scientific principles upon which the art of culture depends are so evident that, if agriculture is to be brought to the same comparative state of perfection as other arts, it can only be by the adoption of the material aid science offers. It is not my intention this evening to allude, other than incidentally, to the benefits a knowledge of botany and geology are to the practical agriculturist, but to show him that a knowledge of chemistry is of the utmost necessity to every one who desires to put himself in a favourable position for the profitable cultivation of the soil. Not only does it do this, but, in innumerable ways, it is a money power to him in every day life. It teaches him the proper kind of manure necessary for the several crops he wants to raise, enables him to tell in what his soil is deficient, and makes adulterations in the articles he is compelled to buy impossible. Until the beginning of this century agricultural chemistry was not known; the practice of farming was limited to certain forms and rules, the result of experience it is true, but often applied without discrimination and ending in failure. The late Sir Humphrey Davy was the first, by his admirable researches, to open a fresh era in agricultural matters; but it was, undoubtedly, to the labours of Baron Liebig that we are indebted for much of the knowledge we now possess of the subject. The publication of his work—"Organic Chemistry applied to Agriculture"—was the

beginning of the present rational system, and to the British Association for the Advancement of Science, who called it forth, the thanks of all agriculturists are due. Since then this subject has been a favourite one for the researches of chemists, and has possibly led the way to the great strides organic chemistry has made of late years. The soil of the earth on which we live is composed of matter divisible into two great classes; the organic belonging to or derived from any living substance, either vegetable or animal; and the inorganic, the result of the disintegration of rocky matter, either by the action of water or the atmosphere. It is your vocation to deal with this soil in such a way as shall make it produce the greatest possible quantity of food stuffs, and at such a cost to yourselves as shall enable you to live satisfactorily. I take it to be, your aim is a two-fold one—to raise the greatest quantity of corn, and to rear and fatten as much animal life as possible. To the superficial observer it would seem the connection between these would be but slight. I need hardly tell you such is not the case, for I believe it is clearly ascertained that in the relative proportion you raise of these is your principal hope of profit, inasmuch as the quantity of manure obtained from one goes, by enriching the soil, to increase the saleable quantity of the other. This leads me to the subject of manures—one which brings chemistry more directly to your aid than any other. Experience shows that the production of vegetables on a given surface increases with the supply of certain matters originally part of the soil, and which had been

taken from it by plants—viz., the saline constituents of the excrement of men and animals. These are nothing more than matters derived originally from vegetable food, which in the vital processes of animals, or after their death, assume again the forms in which they existed in the soil. We know the atmosphere contains none of these substances, can, therefore, replace none, and we know their removal from a soil destroys its fertility, to be restored only by a fresh supply. According to the general principle, that "nothing is lost in Nature," she has provided for a supply of suitable nutriment to the soil when all taken from it is returned; but owing to the artificial state of society in which we live, and the relatively too abundant population of this island, this state of things does not exist, many of the natural restoratives of the soil are absolutely wasted, either by being carried off in rivers, or buried where no reproduction can take place. Although, by exposure to the atmosphere, a considerable portion of ammonia is recovered by the soil, still the phosphates, soluble silicates, and earthy salts, must be restored to it from other sources. This can only be done by the application of manures, and when I speak of these I do so in general terms, including not only the organic ones, from whatever source derived, but also those so-called artificial ones, now rendered necessary by the waste consequent on our present social system. It is here, again, a knowledge of chemistry is of paramount importance, as, by it, the farmer is able to select and apply to his land, what he knows it has been deprived of by a succession of crops, and to test his compound, whether it be really what it ought to be. Chemistry also will enable him to ascertain which of several food condiments is really the cheapest for him; to distinguish between one which contains the greatest amount of fat and flesh-forming material, and one with but little else than respiratory matter in its composition, and to know the best conditions under which his stock should be kept. It will, with something like certainty, enable a farmer so to treat his land, that he may at any time restore its impaired fertility: without it he cannot experiment with any prospect of success. By it he knows when certain elements are necessary to restore the exhaustion of any particular crops. An analysis of its ashes tells him at once the cause and remedy of unfertility. The great problem of the agriculturist, how to restore substances taken from his land by stock and crops, is rendered easy of solution, so that with the moisture, carbonic acid, and ammonia, derived from the atmosphere, he may, with some little assurance, patiently look forward to an abundant harvest. To assist you in the attainment of this desirable end, Chemistry has ransacked the globe to furnish you with food condiments for your cattle, and manures to increase the fertility of your fields. She has shown you the great value of linseed and maize, bringing it from all parts of the world; locust beans and leguminous matter from the Mediterranean, and has even put "King Cotton" in requisition for his seeds. For your field manures it brings guano from Peru, Sombbrero, and Navasso, phosphates from the West Indies, apatite from Estramadura; and to dissolve these, to make them fit for your use, she establishes large manufactories of sulphuric acid, bringing into the market for the latter use pyrites of previous little value. Samples of many of these substances are placed on the table for your inspection. To restore the fertility of your fields, bones and animal matters are imported from South America, and wherever a new substance capable of giving this increased value is found, it is eagerly bought up for your use. It is here for me to allude to one of the greatest discoveries of the age, as far as your calling is concerned—I mean that of coprolites, by the late Professor Henslow. This substance, found in great quantities beneath the soil of Suffolk and the adjoining counties, has done more to increase the productiveness of your land than any other application, and it is to the lasting honour of the Suffolk farmers that they were the first to estimate its value properly. The Suffolk names of Lawes, Packard, Prentice, and Eison, tell us whence spring the great manufacturers of this artificial manure, which is increasing in demand in all parts of the world. I am sorry time will not allow me to show you the various means of ascertaining for yourselves the relative value of these compounds, but the processes of solution, filtration, precipitation, and weighing, are all so tedious as to prevent my more than speaking of them. A little practice will soon enable any of you to perform these operations sufficiently near to give a good approximate idea of their commercial value,

I cannot conclude this address without a passing word respecting a new cultivation which your neighbourhood has taken up, much to its credit; I allude to the growth of Silesian Beet, which, whilst it promises to be a means of increasing the amount of your employed labour, will doubtless prove an otherwise satisfactory crop. In these advanced times the principle of long fallow seems to be going out. Chemistry has shown you how to replace elements without the waste of time and profit a long fallow compels; and here is another crop presented to you to fill up an interval which would otherwise bring no return for your labour; besides which, the pulp not required in the manufacture is undoubtedly valuable as a feeding stuff.

Mr. W. BIDDLE asked Mr. Wiggin if he had ever made any experiments upon Silesian beet.

Mr. WIGGIN replied in the negative, but said he had made an examination of swede turnips, and he found that in a ton of roots, which was 2,240 lbs., there was 224 lbs. of solid matter, 19.41 lbs. of mineral matter, and 204 lbs. of vegetable matter. In all probability that vegetable matter would furnish them with a considerable amount of ammonia, and the mineral matter would give them phosphates, the best of which probably was phosphate of lime. In taking away the juice from that 2,000 lbs. they took away a certain amount of sugar, and removed some of the mineral matter. He was quite aware that according to the principles of growth so would be the amount of mineral matter the root would take up; and it was to their interest as well as to Mr. Duncan's that as little saline matter as possible should be in the juice, inasmuch as Mr. Duncan could not so readily get out the sugar. The amount of saline matter that would be in the beet was determined by the kind of manure they put to it as well as the nature of the soil. In answer to further questions put by Mr. Biddell, Mr. Wiggin said he considered the pulp as a feeding stuff was similar to linseed cake or cotton cake. It would be as good a feeding stuff as either linseed or cotton cake. It certainly would not be to their advantage to have it thrown away.

Mr. BIDDLE: You don't mean weight for weight it would be as good as cake?

Mr. WIGGIN said he did not say weight for weight, but what he meant was it was a good substitute for rice, maize, and locust beans.

Mr. BIDDLE said the pulp was wonderful stuff to ferment, and asked Mr. Wiggin whether it was better or worse after heating.

Mr. WIGGIN said he thought not. He did not see how it could be better for fattening purposes. It was more disintegrated, and it would be more readily assimilated into the constitution of the animal, but he did not see how its constituents would in any way be altered by fermentation. It might render it more digestible, but there was a great difficulty in controlling fermentation. If it ran on to acetic acid they then did more harm than good.

Mr. HITCHCOCK said according to the analysis of Mr. Duncan, after the water was taken away, there was 75 per cent. of solid matter. He (Mr. Hitchcock) did not think there was quite so much as that, but there was more than in turnips.

Mr. BIDDLE said the pulp appeared to give out a great deal of water in the course of fermentation, as it would steam for days.

Mr. WIGGIN said that was in a great measure the result of the temperature. He could hardly think there was a great deal of liquid left in the pulp, as that was exactly what Mr. Duncan wanted, and he would not be likely to leave much of that in the pulp. It was a similar case to linseed cake. There was not so much oil now in the cakes as there was some years ago.

Dr. WHITE said he understood Mr. Wiggin that sugar beet did not deteriorate the value of the land if the farmer would feed the pulp after it was done with. The beet removed nothing but carbon and hydrogen, which they could get from the atmosphere.

Mr. WIGGIN, in the course of several answers to the above question, intimated that he was of Dr. White's opinion.

Dr. WHITE asked Mr. Wiggin how he accounted for the fact that a pasture maintained its virtue without being subject to change of crops?

Mr. WIGGIN said he thought that in some form or another it was owing to the qualities being returned to the ground in

feeding that the grass took out. In the excrement of their cattle they had an amount of ammonia, and they also derived certain benefits from the atmosphere. The saline constituents were not taken out of the land in sufficient quantity to be any permanent deterioration to the soil.

Dr. WHITE put a number of further questions to Mr. Wiggin of a technical character. In the course of his answers Mr. Wiggin referred to the practice of putting lime upon the soil. The effect of it was to disintegrate the soil. Dr. White, in the course of the conversation, also remarked that the practice was more general in Scotland than in England, and he explained the Scotch practice. Dr. White also remarked that he quite agreed with Mr. Wiggin that if the natural salts were taken from the ground they must be restored in some way. Of course the best thing to do was to use the farm-yard manure, but they could not get enough of that, and they must make up the deficiency as best they could; as, for example, if they had turnips, they would apply superphosphates. They would give salts of ammonia with nitric acid. If their crops were sold away so that they did not again return to the ground, that which they had taken out must be restored in some way.

Mr. HAWKINS asked what would be the best substitute for guano when that substance was exhausted.

Mr. WIGGIN did not apprehend that the guano was likely to exhaust at present. If it did they could get its ammoniacal salts and phosphates elsewhere. Phosphates, as they all knew, were derived in large quantities from coprolites, which he had never heard were anything like exhausted. Nitrate of soda they could get in inexhaustible quantities from Peru, which would furnish them with nitrogen, one of the elements of ammonia. Gas works refuse also furnished another of the elements they required.

Mr. HAWKINS said nitrate of soda was enormously increasing in expense.

Mr. WIGGIN said there were other means of consuming nitrate of soda. A great deal of it was now made into nitrate of potash, a substance largely used in the manufacture of gunpowder, and as there was a great demand for gunpowder just now (laughter) it might be the cause of the increased expenditure. Ordinarily nitrate of soda was, in his opinion, a substance in which the supply and demand were about equal.

Mr. BIDDLE: What is your theory of the composition of coprolite, Mr. Wiggin?

Mr. WIGGIN: That is a geological question I most carefully steer clear of.

Mr. BIDDLE: You are not satisfied with any of the present explanations?

Mr. WIGGIN: No.

Mr. BIDDLE said they hardly ever had a gentleman there of known ability without they endeavoured to suck him. He asked Mr. Wiggin to tell them some easy and approximate method of detecting adulteration, for he thought no class of men were more robbed by adulteration than their noble selves. In manures they were bound to rely upon the respectability of the seller, which was not always advisable. He should like to know some easy method of testing the proportionate amount of phosphate and other ingredients in guano. Another thing in which he had been dabbling lately to his cost—rice meal—he found to contain a quantity of plaster of Paris. The question Dr. White had asked of how pastures maintained their fertility for so many years was one well worthy of discussion. He could go to pastures in this county which had from time immemorial been pastures, and yet they were now as good as ever, and if they traced the history of those pastures they would find they had nothing on them and they never tasted manure. It was certainly a problem with him how they maintained their fertility. There were a great many mysteries nature worked that he (Mr. Biddle) did not understand. He should like Mr. Wiggin's opinion upon the question of exposing manure to the weather before it was put upon the land. He should like to know whether they were right in leaving their manure to the influence of frost, thaw, light, and sunshine. Amongst themselves there was a great difference of opinion upon this subject. For his part, he was very much averse to the system, and he thought that every thaw must so act upon the manure as to take away its fertilising qualities. He should, however, like the opinion of Mr. Wiggin upon this point, as from his standing as one of the first chemists in Suffolk, it would have some weight.

Mr. HAWKINS asked if artificial manures had not depreciated to a certain extent within the last few years.

Mr. WIGGIN said he thought not.

Mr. HAWKINS said, many years ago, when he purchased his first ton of guano, he gave £7 for it, and it was far superior in quality to that he could purchase now. The value of that manure was increasing, and it was now a frightful price. The demand for corn crops was now so great that they could not produce them without something beyond what their farm-yards would produce. They all knew that sugar-beet could not be grown without excessive expense, and when they looked at the fact that the guano of the present day was not only very materially rising in price, but also reducing in quality; it was for them, he thought, to ascertain what was the best substitute. He remembered when he gave £7 a ton for his guano—he had the finest crop of corn he ever had in his life. How could they, as corn-growers, do with guano at double its original price, and corn at the same price.

Dr. WHITE asked how it was if a bullock was fed upon nothing but barley or rice meal, which contained nothing but starch, he would make muscle? This, Dr. White described as a physiological question, but he thought connected with agricultural chemistry.

Mr. WIGGIN said he believed if an animal was fed upon nothing but starch it would not make muscle, but there was something more than starch in barley meal, and in the case of rice meal it would get from the air several components of muscle. In the first question put by Mr. Biddell, of how plaster of Paris could be detected in rice, he might say it was the simplest thing in the world. They had nothing to do but to boil upon it a solution of sulphuric acid and water. Whatever sediment remained at the bottom would be sulphate of lime or plaster of Paris. To test the amount of ammonia in manure, they could tell that by acting upon it with water and neutralising it with acid. To test the phosphates they wanted to apply some water containing a small quantity of muriatic acid. That would boil the phosphates and they must then filter it, after which the phosphate must be precipitated. They must then weigh relatively the quantity they got from it, and see whether it was in proportion with the other portions. If they wanted a soluble phosphate they had only to boil it in water and then filter it, after which ammonia would precipitate it. This could be acquired after some little practice. With reference to Mr. Biddell's question of whether manures were injured by exposure to the frost, Mr. Wiggin said he was of opinion that they were not injured in the slightest degree. If manure was not thoroughly fermented they not only had, by exposure, a chemical but a mechanical action, and there could be no doubt in the world that it was not altogether economy to allow the gases to pass away. In Scotland they had liquid manure tanks, in which they neutralised the manure with sulphuric acid. If they used a quantity of gypsum, but more particularly sulphuric acid, they would be enabled to preserve much they now very often gave away. The lower the temperature the less likelihood there was of a separation of the gases, and of a corresponding benefit to the atmosphere.

Mr. BIDDLE said he thought it was when the frost went away that a good deal of the harm was done.

Mr. HAWKINS asked if the practice of manuring layers in the autumn and letting them lie till the following spring was beneficial or not?

Mr. WIGGIN: Beneficial.

Mr. BIDDLE remarked that after a frost and during a thaw they always found that manure that had been exposed to the frost emitted a smell, and he argued that there must be something beneficial to the soil in that smell, and if it was in the air it could not be in the land.

Mr. WIGGIN said the smell was in the air, and was thereby transmitted to the soil. If it did not benefit them it did their neighbours (laughter). He was quite sure that if they were to throw a certain quantity of manure about a field and let it lie for some time, after which, if they would take some of the earth from under the exact spot where some of this manure had laid and compare it with some other earth where none had laid, they would find the one contained ammoniacal salts, which were not to be found in the other.

Mr. BIDDLE thought Mr. Wiggin had not disposed of the frost question.

Mr. WIGGIN said of course the value of the manure was not

increased by evaporation. It might carry away a larger quantity of ammonia than it ought, and might carry it off the farm.

Mr. BIDDLE: If it once gets into the air it may fertilize a farm ten miles off.

Mr. WIGGIN then referred to Mr. Hawkins's remarks about artificial manure. He repeated what he had once before said in the evening that if they could not get natural manure they must get artificial, which the chemist of the present day supplied them with. He would rather make no preference to any firm of manufacturers, but he could tell them that the respectable manure maker of standing could prove to them that his manure should contain the same virtue as guano, because the ammoniacal constituents of guano were to be artificially found in other ways. There was undoubtedly an increasing demand in the sale of these artificial manures. In answer to further question put by Mr. Hawkins, Mr. Wiggin said he thought the artificial manures would hereafter supplant guano. It contained the same amount of ammonia and phosphate. The refuse he (Mr. Wiggin) had spoken of as coming from gas works contained all the ammoniacal salts they wanted, but the farmers would not buy it. It should be neutralised with sulphuric acid. In answer to Mr. Biddell, Mr. Wiggin said when it would redden test paper was the sign that it was all neutralised. It would certainly pay them better to buy it on the spot than it would pay Mr. Packard to buy it and carry it to Ipswich.

Mr. HITCHCOCK referred to what had been said of the feeding qualities of rice. It created very little fat and no muscle.

Mr. BIDDLE asked how it was, if that were the case, that the natives of countries where rice grew flourished so upon it?

Mr. WIGGIN said those people generally eat some kind of vegetable with it. The temperature of the atmosphere in those places and that of their body were so slightly different that it also caused a material difference.

Mr. BURRELL, in answer to a suggestion of Mr. Hawkins, that coprolites were now getting scarcer than they were, said the reason they had increased in price was not that they had any fears that the supply would not last, but they found they cost considerably more to raise now.

Mr. BIDDLE: Is it not also that the demand is very much increased?

Mr. BURRELL: Yes, it is.

Mr. WIGGIN said he did not think the increase in price was so much to be attributed to the scarcity of the article as the increasing demand for it. The daily increasing demand for these coprolites showed that people were beginning to know the value of them.

Mr. HITCHCOCK thought the first portion of Mr. Biddell's remarks, when he asked Mr. Wiggin to explain how to analyse certain things, looked very much like every man his own lawyer or own doctor style. Of course they could all have an analysis of anything they liked by paying for it. He thought also that the amount of adulteration in manures was very

much exaggerated. If they knew a thoroughly respectable firm, the best thing was to trust to them. Mr. Hawkins had been making a complaint about the high price of manure. He said he first bought it at £7 per ton. That showed that Mr. Hawkins knew the value of it, and other people did not. English farmers were profoundly ignorant on one point. They thought they were all the world, and they most certainly were not (laughter). Guano was guano all over the world, and if the English farmer did not like to buy it at Messrs. Thomson, Bonar, and Co.'s price, they said "very well, we will take it somewhere else where we can get our price." Mr. Hitchcock considered they ought not to call out about the price of guano.

Captain BENCE (the chairman) proposed a vote of thanks to Mr. Wiggin for his interesting paper, and the answers he had given in the discussion.

Mr. HAWKINS as an individual member of the club desired to say that he had not met a gentleman with more pleasure and who answered all questions with more marked ability than Mr. Wiggin, and he had the greatest possible pleasure in seconding the proposition.

A discussion was then raised by the Chairman suggesting that the Club should send a contribution to the peasant farmers of France, who were ruined by the effects of the present war. The matter had been before the Committee, who had directed the various members of Parliament and county gentlemen of the neighbourhood to be written to. Mr. Barber, the secretary, read letters from Col. Parker, M.P., Lord Augustus Hervey, M.P., Col. Wilson, and Mr. Edward Greene, M.P.; all of those gentlemen were in favour of the project of rendering assistance to their French neighbours, except Col. Parker, who thought the present time inopportune, as promises of assistance might have the effect of continuing the war. Mr. Hitchcock was in favour of the movement. Mr. Hawkins thought with Col. Parker, that the present time was not the time to do it, and they were not at all sure that what they sent would not get into the hands of the Prussians. Mr. Wm. Biddell, in reply to the objections raised by Col. Parker and Mr. Hawkins, said he thought no one could rightly say that this was not the proper time to act. The French sowed their corn in March, and we had now commenced February. He did not approve of the system of sending them seed corn, but believed in sending money. He apprehended they would put the spending of their money into the hands of some one upon whom they could depend, and that would do away with the objection that it was likely to fall into the hands of the Prussians. Mr. Biddell proposed a formal resolution, inviting the members of the Club to subscribe. An opinion was expressed that it was much better that whatever they did should come from the Club, and not from them as individuals. Mr. Hitchcock seconded the proposition, and it was unanimously carried. The subscription was commenced in the room, and the sum of £11 17s. was raised. The Secretary was instructed to communicate this resolution to the absent members of the Club.

THE WINFRITH FARMERS' CLUB.

HARVESTING HAY AND CORN.

At the last meeting at Wool, the president, Mr. J. J. Bates, was in the chair, and Mr. Chapman Saunders in his place as vice-president.

Mr. F. SPICER introduced the subject for discussion—"The best method of securing hay and corn." He said: It's not always a sure find when a young hound opens, and unless confirmed by some older one, we attach little or no importance to it; so, in my case to-night, amongst the few remarks I shall make, I may be often on the wrong line; and, if so, must rely on the older and more practical members to set me right. I should not have been induced to undertake this or any other subject had it not been for Mr. J. Damen's just taunt, "That many of the young members came here and never opened their mouths." This evening, gentlemen, I hope to redeem my character so far as opening my mouth, and only hope I may do it to some little purpose. The subject I have to bring before you is "The best method of securing hay and corn"—a subject which,

at first sight, appears to leave little room for discussion, as one would imagine most farmers must agree as to the management of securing these two things; but I venture to assert there is scarcely anything on which they differ so widely—that is to say as regards the details. Coming first in the natural order is haymaking, and I think the experience of the last few years has taught us that it is of equal importance to secure our hay in as good order as our corn. What little experience I may have in haymaking is chiefly of water meadow; I shall therefore direct my remarks more especially to that crop. Although many and great reforms have been made in agriculture, especially in substituting machinery for manual labour, yet I do not think we have a machine that will cut water-meadow grass in a satisfactory manner, however well they may answer in dry mead, so that we must still depend on the scythe. There are, of course, parts in most meadows which might be cut in a decent manner

with a machine, exclusive of the edges of the floats and drains; but, looking at it from a practical and economical point of view, I think you must agree with me that it is preferable to use the scythe. Supposing, then, the grass to be cut in this manner, the next process would be to tid it. Some persons have this done as soon as it is cut, whilst others prefer waiting a day, and this appears to me the wiser plan, as it allows time for the ground to dry between the swathes. It is obvious if the ground be wet the grass will be longer drying. Here, again, the nature of the ground prevents the use of a machine with advantage, as it is necessary to go across the swathes with it. If this were done in water meads, half of the grass would be thrown into the drains, &c., because in nearly all cases the swathes run parallel with them. So, taking one thing with the other, I think it the best plan to use the fork. But I should certainly prefer the machine for turning, as it does the work better, and at the same time much faster, which is not always the case. I believe it to be admitted on all sides that to make good hay the green colour should be preserved, and the hay made dry at the same time. To achieve this, the hay should be constantly kept on the move with the machine, and two women, one at each end of the pens, to turn up what hay has been missed by the machine in turning. If allowed to remain too long without this process it would get scorched, which should, if possible, be avoided. The hay being dry, the next thing is to stack it. To prepare for this it must either be put in pooks or rows. I scarcely know which is the best plan. If it is poked an extra hand would be required to every two pitchers in proportion to what would be necessary if put in rows; but perhaps it would be gained by the extra quantity put on the waggons. As to the size and shape of the stacks, they, of course, vary according to circumstances; but, supposing a large quantity to be required at one place, I certainly should not consider it the best method of securing it to make very large stacks; because, if so, it must be extra dry, or it is liable to get spoilt by heating. Some people are of opinion that too much hay cannot be put together provided it is dry, as they argue that it would improve in stack. This may be the case; but, at the same time, I can't see how grass, having once lost its natural properties (which it would do if overdried), could regain them by such means. On the other hand, if stacks are made too small, there is a larger amount of outside hay, which, from exposure to the air, is of inferior quality. We naturally wish to get as little of this as possible. In avoiding it we should not go to the other extreme, and perhaps sacrifice the heart of the stack for the sake of a little outside. The shape is almost a matter of taste, but it should be remembered that a circular stack will enclose, in proportion to the outside, more than any other shape. I think it a good plan, if possible, to put a little straw on the roof before thatching, as the top hay is frequently damaged; but I am afraid few of us will be able to put this in practice next haymaking, as there will not be much spare straw in this neighbourhood. I have said nothing about the cost of cutting and making hay, as the price must vary according to the crop. I have, however, made a rough estimate, and I think it would cost about 15s. per acre, including everything, supposing it to cut two loads. There is very little to say respecting dry mead hay, as it is cut by a machine, turned by a machine, and collected by a machine; so that, compared to water-mead haymaking, it is quite a pastime—only make it when the sun shines. I'll just say a few words on clover hay, which I suppose I ought to have taken first. This is now generally cut by a machine; but I doubt whether this is the best method of securing it, as it is thus spread over a much larger space of ground than when cut with the scythe; consequently, in turning and pooking, the clover leaves are more liable to fall off than when kept in swathe, and this is what we particularly wish to prevent. I now come to the other part of my subject—viz., corn. In the good old days the harvest was looked forward to as a very serious business, and generally lasted from a month to six weeks; but in this, "the age of intellect," by the aid of machinery, it is reduced to about half that time, although there is nearly double the quantity of corn grown. On farms where a large portion of straw is consumed by the stock as fodder, wheat should be cut before it gets too ripe. The reaping-machine has now almost wholly superseded the scythe and hook, and not only is the work done in much less time but in a much better manner. The machines mostly used in

this neighbourhood are Samuelson's, and I think it almost impossible to get any that would give greater satisfaction. There are two kinds of machines by the same maker, one of which self-delivers the sheaves at the side, and is supposed to be worked by two horses, whilst the other, intended to be worked by one horse, and called the "Eclipse," requires a man to deliver the sheaves at the back. Many object on that account to this machine; but for my own part I prefer it to the other. I shall not, however, discuss the merits or demerits of either, as they do not come within the scope of our subject to-night. Wheat, and, in fact, any kind of corn, should neither be cut nor tied up whilst wet, and it should be ailed as soon as tied. There is a difference how wheat is best ailed as regards withstanding the wind and keeping out the rain. I think the strongest way is to make the aisles round, only when they get wet, or should the wheat not be quite ripe, it takes so much longer for the wind to penetrate than it does when made the long way. I cannot say how long wheat should be allowed to remain in aisle, as it depends on the state of ripeness when cut, or the weather, and a variety of circumstances which would be different on different farms. The size of the stack should depend on the manner in which it is intended to thrash it; if by steam, then about as much as would occupy a day would, I think, be a very good size; but if required to be moved to a barn before it is thrashed, I think then a preference would be given to smaller ones, because in uncertain weather they can be moved in less time. Next in importance comes barley. It used to be the common opinion that barley should remain on the ground, after cut, long enough to have the benefit of mire dew, and turned each day; if such was now the practice, and with the seasons we have had of late years, I fancy it would get darker instead of brighter. Barley can be cut with the machine when the clover is not too high; but when such is the case it is best cut with the scythe, as the fingers of the machine are too wide apart to cut it. Barley is not often sheared like wheat, but when it is cut by machine I think it the cheaper and, certainly, the most expeditious way. This method is not very general in the south of England; but in the northern counties and Scotland, where harvest is later and so more liable to heavy rains, this is considered the best way to secure it. Whether either way would have any effect on the quality of the corn, I must leave to more experienced men to say. Barley should not be cut until quite ripe or it will be streaked. It has been a very difficult matter this year to remove the hales from the barley. I question whether this is not occasioned by its being cut too soon, as no amount of rain or turning made the slightest difference. Oats are often cut first and stacked last, or at any time when not occupied with corn of more importance. Such being the case, it is our interest to use the best means to secure it till such times as we are at liberty to stack it, as well as to its ultimate security. This would, I think, be best obtained by its being treated in the same way as wheat; and as clover is seldom sown with oats, the machine may here be used to the best advantage. I have said nothing about the different sorts of corn, as it has little to do with my subject, and if it had it would be a difficult matter for one farmer to say what sort would best suit his neighbour, as the difference in the nature of the soil would preclude the adoption of the same rule on different farms. The securing of our corn in a fit state often depends on the means we have of conveying it with the greatest speed from the field to the homestead, or any place where we intend to stack it. And this leads me to make a few remarks, in conclusion, on the different modes employed in this and other counties of doing it. What we wish to ascertain is, the most economical way of applying our horse power. We, in this and the neighbouring counties, use the waggon and two or more horses. Whether this is because it is the best, or because it is the custom, I cannot say; but, in the north of England and Scotland, one-horse carts are substituted for waggons, and many practical men are in favour of the change. They certainly appear to have reason on their side, especially if they can carry (as they say they can) nearly as much on their carts with one horse, as we can on our waggons with two. Our interest should lead us to avoid wasting our horse-power by using implements of extravagant dimensions; and, while we are inquiring into the best means of cutting our corn, I don't think the time would be wasted if we gave a little consideration to the relative advantages of one-horse carts and waggons. A farm is not like a factory, concentrating the

power at one place; but its operations are so varied and scattered, so often required at different places at the same time, that frequently we are unable to employ our labour, both horse and manual, to the best advantage. Our prejudices in favour of profuse horse labour must gradually give way before the increase of rates and taxes, as it is very certain a reduction must be made somewhere, since it appears to be the confirmed policy of the Liberal (P) Government to see how much they really can squeeze out of the land. The injustice of many of our present rates and taxes is so great, that it becomes the duty of every farmer not only to protest against them, but to use all lawful means to get them equalised. I have not read you a long paper, but short as it may be, I am afraid I must have exhausted your patience, and I only wish it had been something better worth your kind attention, for which please to accept my best thanks.

Mr. CHAPMAN SAUNDERS said various opinions on the subject prevailed. In different localities it was found necessary to pursue different plans. With regard to water-meadow hay he quite agreed with Mr. Spicer that it was well to take it off the land, at night especially, in order, as much as possible, to secure it from the dampness of the soil and also atmospheric influences. Perhaps it was not well to put it up in very large ricks, because then it became very dry. They did not get very much by putting a large body of hay together. Respecting dry meadow hay, he thought that the less labour employed in making it, provided the weather was fine, so much the better. Very often machinery was employed too liberally with clover. Care should be taken not to use the machine too much. As to the best method of securing corn, he held a different opinion from Mr. Spicer on one or two points. While in this part of the country but little was known of sheaving barley, in the north of England and in Scotland almost everything was tied up. Small stacks were made—he had seen as many as 150 in one yard—and there were three holes through each of the stacks, from the bottom to the top, acting as ventilators. He was sure they all thanked Mr. Spicer for the very able manner in which he had brought forward the subject.

Mr. SLY agreed in the main with the opinions advanced by Mr. Spicer. Directly the wheat was cut, it ought, he thought, to be tied and stacked. Respecting barley he did not as a rule hold with turning it in swathe. As for the best plan for cutting with machines he advocated the side delivery. He found the use of machines a great improvement in saving beans.

Mr. W. LONGMAN thought, with respect to grass in dry meadows, that machines were to be recommended for cutting. When corn was ready, despatch was, he thought, of the utmost importance. He preferred the self-delivery machines.

Mr. LONGMAN held that the quicker the corn was stacked the better. It was a great advantage, he thought, to stack

the corn in the same field as that in which it was cut, or as near it as possible. They should avoid, if possible—except, perhaps, over hilly ground—using more than two horses to a waggon, although he himself was obliged occasionally to use more. Boys were boys, and the corn got trampled on.

Mr. R. G. RANDALL was much obliged to Mr. Spicer for his paper. On one little matter he differed from him, and this was with respect to cutting water-meadow grass. He did not think that in meadows such as theirs machines would ever supersede manual labour. The latter was the cheapest method. Some time ago he tried Samnerson's little grass cutter, but could not get on very well with it. The work could be done better by manual labour. In dry meadows, however, nothing could do the work like machines. A question which ought to have come up for discussion was that of the expense of carrying from the field. Whether the work could be done cheaper by piece than by day was for their consideration.

The PRESIDENT thought they had had a very good discussion, and that they could do no less than accord Mr. Spicer a hearty vote of thanks for having so ably introduced the subject. He hoped that others of the younger members of the Club would follow his example. Respecting hay, the subject could not, he thought, have been brought forward at a time when the importance of the subject was more apparent to them. Most of those present had suffered from a short crop; there had been an unusual demand for it in consequence of the severity of the season. There was a sufficient inducement for practical men to use the best means in their power, not only to make the best quality of hay, but also to make the most of the crop produced. He believed himself, that taking two samples of hay grown on the same field, the relative value would considerably depend upon the treatment adopted in the conversion of the grass into hay. The quality of the hay was influenced in the making, and very frequently they could compensate in quality for shortness in quantity. If they kept the hay spread over too large a surface of ground, thereby exposing it too much to the dews of the night, they would reduce the quality considerably. They should take care that the ground was sufficiently dry—that was of the greatest importance. He looked upon it as essential in making hay to keep it on as small a space of ground during the night as the season and labour would permit. Respecting the management of corn crops after cutting, Mr. Bates offered some practical suggestions. The day, he thought, was not far distant when they would find it would pay every man to employ machine labour to cut his corn; and that applied equally to barley. This could be managed better than cutting with a scythe. Mr. Bates also remarked on rick-making, and, in conclusion, moved a vote of thanks to Mr. Spicer.

Mr. CHAPMAN SAUNDERS seconded the motion, and the vote was carried with applause.

THE CORK FARMERS' CLUB.

ARABLE OR GRAZING FARMS.

The following paper was read at the last meeting by Mr. James BYRNE, President of the Mallow Farmers' Club:

That there are large districts in Ireland which repay the occupiers when grazed or meadowed better than if cultivated, few practical farmers will dispute. This was the case when live stock and their produce were selling at half the prices they now realise, and when corn was dearer than at present, with labour much cheaper. With those fertile plains and rich alluviums the present paper does not intend to treat, but with that still wider area of high-lying, shallow soils which constitute at least nine-tenths of the arable land of this county. All farmers are familiar with the fact that pasture on inferior soil, if long laid down, is prone to revert to its original condition. Heath, ferns, furze, briars, and such plants will ever and anon battle with the farmer to regain their confiscated domains. But independent of this botanical species of deterioration, the light of modern chemical science reveals to us that there is another order of impoverishment at work, not so manifest to the ordinary observer, but still no less certain in its effects—namely, the loss of the phosphates. Chemists prove to us

that the principal portion of the bony framework of animals is composed of phosphoric acid, united with salts of lime and the alkalis. These phosphates are drawn from the soil through the plants which our domesticated animals consume—directly in the case of the herbivorous animals; indirectly in the case of carnivorous ones. As the light lands of the country when not cultivated are devoted to the raising of young stock, and as the very framework of this class of stock is, as I pointed out before, derived from the soil, it is evident that when they are sold off the respective lands on which they are raised, that a considerable amount of phosphates must be drained off with them. Indeed Professor Baldwin, the intelligent superintendent of agricultural education in Ireland, has computed that 89,000,000 lbs. of phosphoric acid are annually removed out of Ireland, representing a cash loss in the value of manure equivalent to £1,410,000. The Cheshire dairy farmers, in order to restore the original fertility to their fields, were necessitated to apply from 35 cwt. to two tons of crushed bones per acre. Fattening lands, on the other hand, do not deteriorate, because the bony framework of the animals pastured is

already built up before they are put on such lands; and the flesh and fat being organic substances, are compensated for by the ejecta. Therefore, if a farmer would maintain the fertility of inferior pastures, he should combat with the natural flora of the land by weeding and top dressing with ammoniacal manures, which encourage the growth of the more robust grasses; and to meet the chemical drain, he should apply lime and the phosphates. I have dwelt thus long on this point, because I sometimes meet with farmers who do not imagine that pasture lands can deteriorate, if they are not meadowed. As I have said, I do not contemplate any comparison in the present paper between grazing on rich fattening lands and cultivation. My object is, if possible, to ascertain the point where grazing should cease and tillage begin. I am perfectly sensible that any comparison or calculations I may make can be regarded as no more than mere approximations, so difficult is it to reduce anything of the kind to mathematical accuracy. Still, as something of detail is necessary to provoke discussion, and to direct the agricultural mind to the consideration of a matter vitally important to the Irish nation, I trust that the examples I give, or the discussion which is to follow, will be neither unprofitable nor uninteresting. As good pasture land is sure to fetch double the price of average tillage land, I will suppose two farms of 100 statute acres each, situated about four miles from a market-town, well adapted for tillage, and both let at £1 per statute acre, including taxes; but the occupier of the one grazes all, while the occupier of the other tills all under a four-course system of cropping. In order to establish a comparison of the feeding value of the grazed farm, I will suppose that if mown it would yield one ton per statute acre of hay; and as a ton of hay is equal to four tons of grass, my standard will be the feeding value of four tons of grass of moderate quality *versus* the produce raised by a four-course shift of cropping. On this description of land it would take four acres to graze and winter a dairy cow, and as it has been argued by practical graziers that one cow is equal to six sheep, the farm would, therefore, feed 25 cows, or 150 sheep. The dairy cows might be taken as equal to yielding a produce per head of £10 10s. Labour, including winter attendance, haymaking, milking and butter-making, coals and utensils, would be about £3, with £1 per head for depreciation; the net produce from the dairy cows is £162, and when from this the rent is deducted, the profit is £62 10s. Sheep on an average of years leave a profit of £1 per head, or in this case £150, from which, when the rent is deducted, there is profit of £50—less £15 for a boy's attendance, or £35, which can be added if the occupier is his own shepherd as well as superintendent. I will now give the tiller's case: he will have 50 acres of corn, 25 acres of green crops, and 25 acres of rye-grass and clover, and in order that the comparison should be based strictly upon the feeding values of the produce raised, and not on the selling values, which, in the matter of the tiller, will be a considerable drawback on his balance-sheet, as in nearly all farms some corn, potatoes, or flax are annually sold off to advantage, I will take for granted that all the produce raised is consumed on the farm. In order to raise the fertility of the soil sufficient to produce abundant crops, he will in the first course of cropping have to pay say £3 per acre for purchased manures; after the first course this will not be necessary for the mere sustinment of the fertility of the soil, because if fattening stock only be kept on the farm from the reasons given before, the farm will be able to sustain its condition if the manure heap be properly attended to. The outlay, therefore, for manure I will put down at £300, which at 5 per cent. interest is equal to £15 per annum; four farm houses will cost £100, which bearing interest at 5 per cent., with 10 per cent. for insurance, amounts to £15 per annum, interest on cost of farm implements and additional farm offices, as compared to the grazier, with allowance for depreciation, say £15 per annum; blacksmith's carpenter's, and harness-maker's bill, £15 more; labour bill, including chaffing hay and straw, pulping a share of the roots, and crushing all the corn by horse power, £180. The annual liabilities of the tiller and grazier will stand thus: Tiller: To interest on machinery and farm offices, with allowance for depreciation, £15; to interest and insurance of farm horses, £15; to interest on purchased manures, £15; to blacksmith's, carpenter's, and harness-maker's bill £15; to labour, £180; to rent, £100; total, £340. Grazier: To rent, £100; labour (a boy), £15; total, £115. The

tiller must, therefore, make £225, besides the £35 profit realized by the grazier, before he finds himself equally circumstanced. An average acre of well-tilled roots should yield 20 tons; which, according to the standard I have laid down, should be equivalent in feeding value to five acres of grass, allowing grass and turnips to be equal in value; and this produce on 25 acres should represent the food of 81½ dairy or fattening cattle, or an equivalent of 187½ sheep. He has then 50 acres of corn, and, as an acre of corn is in feeding value equal to half an acre of roots, he has the food of 81½ dairy cows, or 187½ sheep more. In addition to this he has the produce of the 25 acres of rye-grass and clover, and this may be put down as having a feeding equivalent of one-third that of the green crops break, or ten and nearly a half dairy cows, or 62½ sheep. To sum up, then, the tiller after deducting the food consumed by the four horses, has food for 69 cows, or 425½ sheep. At the rate which I have adopted for the cows, £6 10s. a head after expenses, the proceeds should amount to £448 10s., and for the sheep at the same rate of profit as in the grazier's case, the amount should be £425 10s. From this after deducting rent and expenses, the matter stands thus: Cows—£448 10s.; labour, rent, and interest, £340=£108 10s. Sheep—£425 10s.; labour, rent, and interest, £340=£85 10s. The difference in favour of dairying will be in a great measure counterbalanced by manure, as before stated, because an equivalent of phosphates must be purchased equal to that sold off in the young stock or milk. The carting in of the turnips in the case of the cows is also an additional expense, and a portion of the carting out of the dung should also be debited against them. I say a portion, because if there were no cows the straw and hay as chaff should be drawn to the fields to the sheep. The pulping, which must, in the case of the sheep, be done by hand-power, must be debited against them, as compared to horse-power pulping in the case of cows; but if, as in some instances, the sheep are house-fed, then there is no difference for the cost of carriage. The £15 which was allowed as the interest of purchased manures should not, strictly speaking, be charged against the tillage as compared to grazing; for although no good farmer would attempt to go on without it, the land is really enriched to that amount, and at the end of the term the occupier would be equitably entitled to that amount of compensation for manures, because from the system pursued the increased fertility was not allowed to lessen. This would bring up the profit of the tiller to £123 10s. for dairy cows, and £100 10s. for sheep. But if we allow £15 as a set-off against the loss of phosphates and extra cartage for the cows, we have only a profit of £8 left us between dairy cows and sheep, which, I believe, is not far from the mark in practice in districts remote from towns, where a market for new milk is not obtainable. Here, then, we have the tiller making a profit of £100 10s. in sheep on his farm, while the grazier makes but £35, or little more than one-third as much; but the grazier has but £3 per acre invested, while the tiller has £9 per acre, independent of the sums that I have charged interest on, so that the per-centage of profit is about the same in both cases, or a little over 11 per cent., and on that very fact the great question of "shall we graze or cultivate" depends. One man with a thousand pounds capital grazes three hundred acres, and employs only a shepherd; the other has a thousand pounds capital, and tills one hundred acres, giving employment say to four men, two women, and two boys, and besides his blacksmith's, carpenter's, and harness-maker's bill. Some of his money is circulated through the hands of the implement manufacturers, the seed and manure merchant, and, through his employes, the village baker and grocer, clothier and shoemaker. Still the grazier, without talent or exertion or annoyance, with one man employed, can realise as much profit as the tiller, who to succeed in all must be a man of energy and skill, who employs 18 persons. Under the one system as compared to the other, the country even without manufactures, only as at present, could support twelve times the number of inhabitants. It is true that under the grazing system the inferior lands will deteriorate rapidly, still "sufficient for the day is the evil thereof." The grazier has his family to support, and so, perhaps not more selfish than other men, says he will go with the times, and not make sacrifices to alter them. He has not the talent of a husbandman; he must, therefore, to save himself, "turn out men, and turn in cattle." In the history of nations there are few things more

deplorable than this. All other nations estimate their wealth by the number of their inhabitants as well as by any other test. Ireland's wealth must be estimated by the decay of her people and the deterioration of her soil. Swift, referring to the great propensity of landlords to consolidate farms, and turn them into pasture in his time, with characteristic bitter humour, says "Ajax was mad when he mistook a flock of sheep for his enemies; but we shall never be sober till we are of the same way of thinking;" and it would appear that we are now living in a corresponding period. However, we know that between Swift's time and 1845, such a change came over the minds of the people that at one period there were scarcely any cattle or sheep kept at all, while in some village districts this was going to the other extreme. In Arthur Young's time the so-called rotation was potatoes, wheat, and five crops of oats, then lay down without grass seeds or clover, and after a few years repeat the course. This exhaustive system could not, of course, continue always; the land was sadly impoverished, as it must always be when there are not a sufficient number of live-stock kept in proportion to the tillage. The tenants had no security; they could not with prudence invest either labour or capital on a soil on which they were little better than encamped on. They were contented to live on the humblest fare, and to lodge in the most miserable sheelings, and when the staple crop, the potato, failed, to you all who were eye-witnesses of the disasters that befel our poor country—the greatest that ever befel any—an attempt at describing its effects would be a useless expenditure of time, as any attempt would fall so far short of the reality. Our manufactures were long since quenched out, local markets and centres of industry are not to be found, and free trade in corn, which enriched the English manufacturer, has banished the Celt from Ireland, whose only manufacturer was the raising of food. The principal causes which have militated against cultivation in Ireland are want of security of tenure, want of manufactures, want of capital, want of drainage, and last, not least, the want of those kindly relations between the higher and lower classes, which are the bond of social order in prosperous states. Each and all of these could be remedied, and the means is vested in Irishmen themselves if they only prove themselves patriotic. If Irish landlords could be induced to recognise their duties as well as their rights, they would learn that the plough and the holder of it is their true friend, and not their enemy; for were it not for the plough, thousands of acres now producing their heavy rents would be quite sterile, as they will be in a great measure if the plough be left to rust. Irish capitalists should give a fuller trial to Irish investments than they have yet done, and our absentees ought to be made share in our burdens. Dr. Hancock, the Irish statistician, says there is no lack of capital in Ireland if it were properly invested. Some legislation has recently been enacted with regard to drainage, but not nearly adequate to the requirements of the great central plain which requires such a large outlay in forming the main arteries. A grant for the drainage of a portion of the Shannon was refused at the last session of Parliament, although the grant was given merely to undo the mischief that was caused by the unskilful engineers' employment by a former government. Still, some

Scotch cheese-parers grudged even that trifle to Ireland, and were successful so far in their opposition. With regard to the feeling existing between the classes, I am very proud to be able to say that it has much improved during the past year, and, if it continues so to improve during the present year, the foundation stone of Ireland's regeneration is laid on an adamantine basis. One of the fruits of this union of sentiment so long estranged must be the encouragement of the cultivation of the soil, because as cultivation tends to fix the people on the soil, so must grazing tend to root them out. Therefore, if our rulers really wish to secure the affection and loyalty of the Irish people; if they wish to fill their martial ranks with the bravest soldiers that ever bore steel, more especially now when their honour is threatened by the military despotisms on the Continent, they would repeal some of the penal clauses in the land act, and substitute them with others more in accordance with the spirit and wishes of the Irish people. And you, landlords, if you wish to have your homes guarded by faithful retainers; if you wish your lands to be rescued from sterility and maintained fertile, encourage the tiller, who has to struggle with the free landowners of America, with Pacific railroads, and swift-sailing steamships, and with the grazier at home, who has already made such inroads on his territory. All who wish to see Ireland in her people, her education, her manufacturing skill, her wealth and military prowess, holding her place among the nations, should encourage the cultivator; for if he cannot hold his own, the people must leave, as they have no other resource to fall back upon. It is, therefore, manifestly the duty of the "powers that be" to remove all checks and hindrances which act as a drag-chain to the Irish farmer, and if he is to get "no favour," he ought at least to get a "clear stage." And you, brother farmers, while you avail yourselves as you needs must, of every opportunity that modern science and art point, out for your instruction, it is your duty, while you impress on your labourers the common cause you are battling for, to see that if you cannot afford to pay them the amount of remuneration for their labour they can get in other countries, that you will at least provide them with snug, tidy cottages; that you will give them every facility for educating their children; and that you are at all times ready to give them the kind and cheery word, which, although it costs you nothing, is always a solace to your poor toil-worn servant; and in the words of the ploughboy-bard—the glorious Burns—I say:

Long may the hardy sons of rustic toil
Be blest with health, and peace, and sweet content;
And may kind Heaven their simple lives prevent
From luxury's contagion, weak and vile.
Then, howe'er crowns and coronets be rent,
A virtuous populace may rise, the while,
And form a wall of fire round their much-loved isle.

Mr. JOHN M'CARTHY said that, inasmuch as so much important information was conveyed in the lecture, in his opinion it would be better to postpone any discussion on it until it was printed, and thus have an opportunity of giving it their most attentive study. He therefore begged to move that the discussion be held on the next monthly meeting. Agreed to.

AMERICAN DAIRYMEN'S ASSOCIATION.

The American Dairymen's Association held their sixth annual meeting in Utica, N. Y., on the 10th of January and two following days. The attendance was large. Many of the papers read were elaborate essays, full of practical instruction. The chair was occupied by the President, Hon. Horatio Seymour, and the first subject brought forward was introduced by Mr. A. Holdridge, of Ostego county, namely: "Would the consumption of cheese be promoted by the more general manufacture of small cheeses?"

Mr. HOLDRIDGE very strongly advocated the adoption, to a large extent, of small sizes, weighing from ten to twenty pounds. The result of partial experiments on this continent, and the general practice in Europe, favour the change. The principal objection is the increased expense which has to be met by a higher price on all the cheeses; but

the cheeses are worth more to the consumer, and some improvements may yet be made in the process of pressing and packing, which will diminish the cost of manufacture. The proportion of shrinkage compared with the larger cheeses is a fraction larger for the first thirty days, and afterwards is about 50 per cent. less.

Mr. BURNHAM said that during the past season he manufactured sixty tons of small cheeses, weighing from seven to nine pounds each. They were all round in shape, and sold easily. He could press from nine to eighteen at a time. It cost him about one-half per cent. per pound more to manufacture small cheese, this covering all expenses of boxing, bandage, shrinking, &c. He could realise from 1½ to 2 cents per pound more on the sale of the small cheese. He manufactured the small and large cheese precisely alike.

The next subject discussed was that of "Soiling Dairy Cows," which was introduced by Hon. H. Lewis, of Herkimer. He considered that in this climate, so subject to severe and protracted droughts, soiling cattle was absolutely indispensable to economical and profitable dairy husbandry. To remedy the growing evil of these periodical droughts, recourse should be had to systematic tree-planting on a large scale; but, in addition, each farmer had the means within his own reach of materially diminishing the trouble. The chief of these are irrigation, under-drainage, and deep cultivation. One cause of the shallow culture which many farms at present received was owing to the light breed of horses, which the "fast" proclivities of the age encouraged. A heavier horse, more adapted for draught, was needed by the farmer. With regard to the first of these remedies, many years must elapse before any general benefit could be expected, and irrigation also was probably far off in the future. But every farmer should make at least a commencement by draining and deeply ploughing. Let the dairyman begin by setting apart a piece of land convenient to the barn—say one acre for every ten cows kept; underdrain it in the most thorough manner; then "go down, down, down with the plough below the gold deposit, enrich it as every dairyman has the ability to enrich it, and seed this early in spring with a liberal supply and general assortment of our best grasses, which will ripen simultaneously." From time to time, as means increase and opportunity offers, more land should be treated in the same way, till at length the whole farm shall have undergone the ameliorating process, and drought will no longer be feared. Orchard grass was highly recommended as a pasture and forage crop. Land, prepared as above directed, will, when seeded with orchard grass, produce four cuttings of two feet each every season, as long as its fertility is maintained, and the cutting done at the proper time. But at the head of all forage plants for soiling dairy cows the speaker placed lucern, provided the soil and mode of cultivation were suitable to its habits. The soil should be a deep rich gravel or sandy loam, naturally underdrained. The roots, penetrating deeply in search of moisture, would soon choke up artificial drains. It may be sown broadcast or in drills ten inches apart. In drills ten pounds of seed are sufficient for an acre; but if sown broadcast, sixteen pounds will be required per acre. Next to lucern, where it could be grown, Mr. Lewis esteemed orchard grass; and next to it would choose common meadow grass. Corn, so much esteemed by nearly all dairymen, he regarded as "worthless, its cost exceeding its actual value." Whatever kind of grass is used, it is highly important that it be fed, or prepared for fodder, before it has passed out of bloom. The speaker had also found advantage in the partial "wilting" of all forage grasses for soiling.

The adverse opinion in regard to Indian corn elicited a storm of discussion, and met with general condemnation, to which expression was given by the following resolution:

Resolved—That this convention is of opinion that corn is a valuable product for the dairy farm, and that we commend it as a forage crop.

Mr. Lewis, in a subsequent stage of the proceedings, considerably modified his statements, and admitted that he had been mistaken in regard to the cost of production. By referring again to his farm accounts he found that the poorest corn crop he ever raised did pay. He was still, however, of opinion that other crops were more nutritious, and gave the results from two dairies near his own residence, which were in all respects alike except in the kind of feed used. The one was soiled with grass, the other with corn, the soiling season beginning Aug. 1 and ending Oct. 31. The yield of the grass-fed herd for that time was 90,288 lbs. of milk, and of the corn-fed 79,452 lbs.

The evening session of the first day was occupied principally with a lengthened and very interesting paper, by Prof. G. A. Caldwell, on the Production of Cheese in Foreign Countries. We notice now only the general considerations to which the Professor drew attention at the close of his address, which were as follows:

1. Some of these methods of cheese-making illustrate in a most interesting manner that intimate connexion between the development and growth of mould fungi and the ripening of the cheese; a connexion as close and invariable, as I attempted to show in my address of last year, as that of cause and effect.
2. To uniformity in the practice of salting the cheeses after they have been formed and pressed, and without breaking up the curd after it has been completely separated from the whey;

the salting being then performed by applying it to the outside of the cheese, either by sprinkling salt over the surface in small doses at a time, which is the more common method, or by immersing the cheese in brine.

3. To the heavy pressure that, in most cases, we put on our cheeses. To be sure, the lightly pressed cheeses may not keep so well, but they are intended more for immediate consumption, without transportation to great distances.

4. To the indications that point to some connexion between the presence of ammonia in the air of the curing room, and the process of ripening.

5. To the peculiar circumstances under which the best cheese of France is made, "the king of cheeses," and the possibility of the construction of similar vaults in fissured limestone in our own country.

6. To the fact that some of the best and most highly prized cheeses are made from wholly or partly skimmed milk, so that an additional income is derived from the cream worked into butter.

7. To the small size of some of the favourite continental cheeses. The Edam weighs only about 4 pounds, the Gouda 15, the Schaalzeiger 5 to 7, the Brie 4 to 7, the Roquefort 4 to 5 pounds, while only two, the Parmesan and Gruyere, are large, like the American cheese.

8. To the great variety of cheeses obtained by these variations in the details of cheese-making and the better market thereby obtained for the products of the dairy. Greater variety appears plainly to lead to greater consumption in Europe, and a similar result might reasonably be expected here.

Finally, then, I would point a very long story with a moral. With every variety of soil, situation, climate and consumers' tastes in the great extent of country represented by the American Dairymen's Association, there should be a correspondingly large variety in the character of the productions represented here. There should be something else besides big, round cheeses, weighing a hundred pounds or more, and, though all good when well made, yet tasting about alike.

The first topic taken up on the morning of the second day, by Dr. S. Wright, of Oneida, was that of Factory Buildings and Fixtures.

Mr. Willard next introduced the question, "Is there a decline in the amount of dairy products in the old dairy regions? If so, what is the cause, and what the remedy?" Mr. Willard thought there was a decline in the cheese product, and that bad cultivation of the soil, bad treatment of the cows, and bad management generally were the causes.

The next matter considered was the question, "Is there any way by which the patrons of butter and cheese factories can receive credit for the milk delivered according to its actual value, and not according to its weight or measure?"

This subject was opened by Hon. H. Lewis, who contended that the present system was unfair, inasmuch as the richer the milk the lighter it weighs, and *vice versa*. The value of milk for making cheese depends on the amount of cream and casein it contains, the proportion of water, its freedom from filth, and its keeping qualities. The first two items can be tested by the lactometer; the last two by setting samples from the can of each patron. He thought this plan desirable and practicable.

After discussion, the following resolution was adopted:

Resolved, That a committee of three be appointed to consider the best means of making an equitable apportionment to the patrons of butter and cheese factories, according to the quality of milk and not by weight; and to report at the next annual meeting of the association.

In the afternoon the subject first brought under consideration was The Causes of Tainted Milk, Floating Curds, and the Remedies. Mr. FARRINGTON (Tomkins) led the discussion, and said that he considered the principal causes of these defects were improper food, deficient or bad water, ill health of the cows, ill treatment, uncleanness of utensils, tainted atmosphere from putrid or other noxious matter—causes that were attributable to the patrons. On the part of the manufacturer the sources of the evil were uncleanness at the factory, and tainted rennet. The remedy for these evils—one which he had found efficient in his own practice—was that of grinding floating curds. He made up tainted milk just as he did any other milk. Draw off the whey as soon as any acid is percep-

tible, and let it undergo a process of digestion. Then grind it. The object of grinding is to get the whey out of the curd, and this cannot be done without grinding, or breaking up into small lumps, and exposing to the air. This remedy applies only to the manufacture of the milk, but the fundamental remedy is good feed and plenty of water for the cows, and entire cleanliness about the farm, the barn, and all utensils.

Grinding Curds was the next subject taken up by Mr. A. MCADAM, who favoured the practice.

In the evening, Mr. ARNOLD read an essay on the question, What shall be done with the cream that rises on the milk through the night, where no agitator is used? There are two ways of utilising such cream. One is to make it into butter, and the other is to work it into the cheese. There is a difference of opinion as to which is the better way. But whatever view may be taken, there is no doubt of the fact that a whole milk cheese cures much faster than one from which cream has been taken. Every dairymen has seen enough to demonstrate the powerful agency of cream in developing the germs of fermentation. To produce the best results, a curd should cure at a certain rate—not too fast nor too slow. If it cure too fast, it will huff and become porous, or generate foul gases that will injure its flavour. If too slow, it will become bitter or sour, or some other change than the cheesing process will supervene and produce effects that never can be removed. In curing a whole milk cheese, it is generally agreed that the right progress is made at 70°. A curd from milk with the night's cream out will cure no faster at 75° than one with the cream all in will at 70°, and a more thorough skimming will require a temperature of 80° or 85°. Dairymen seem to have altogether overlooked the important item that removing the cream retards the curing of the cheese, and that to keep up the right progress the sluggish curing should be hurried up by a higher temperature. Great attention was also absolutely necessary in the process of curing—a matter that was not sufficiently attended to. The subject elicited an animated discussion, and though no resolution was adopted, a large proportion of the speakers condemned the practice of skimming.

The first business brought up on the third day was the discussion on "Condensed Milk Factories."

Mr. CHURCH (Elgin, Illinois) gave an account of the factory at that place.

Mr. JOSEPH HARRIS then read a paper on "Fattening Cows on Dairy Farms." The gist of the essay was that profit and advantage were gained in proportion as we fed as much above what was required to keep up animal heat and vital functions, as the animal could digest. He attributed the superior results mentioned by Mr. Lewis as having been ob-

tained from forage grasses over green corn fodder, to the more concentrated nourishment contained in the former.

Mr. Harris was followed by Mr. O. S. BLISS (Vermont), who read a paper on the "Management of a Good Butter Dairy." A resolution was adopted to the effect that the subject be referred to a committee, who shall give their report at the next annual meeting.

Mr. FARRINGTON (Canada) then discussed the subject of "Colouring Cheese." He strongly opposed the practice, because it did not improve the cheese, while it added about one per cent. to its cost. If the consumer pays this extra cost, he gets only ninety-nine one-hundredths of what he pays for. The speaker estimated that the cost of colouring cheese averaged 100 dollars to each factory, and when this sum was multiplied by the number of factories in the country, the total expense became enormous. All this, he claimed, was waste. Many of the substances used are badly adulterated, and absolutely harmful to the cheese and the consumer. The only colouring matter that he knew of which was not impure, was the anattoine; but he did not know how long this would remain pure. At present, he was well satisfied with it.

A general discussion concluded the business of the Convention. Among other topics that of Sunday cheesemaking was brought up, and the following resolution referred to a committee appointed to report on the subject, at the next meeting of the Association:

Resolved, That with a view to the enjoyment of the rest and privileges of the Sabbath by cheese manufacturers and their assistants, as well as out of regard to the sacredness of the day, the importance of maintaining it unimpaired for the benefit of the public and of individuals of every class; and it is desirable that the delivery of milk to cheese factories on Sunday should be dispensed with, and that dairymen are requested to inquire whether this is not practicable, consistent with their interest, and whether the value of the Sabbath would not justify some sacrifice on their part; and that of their families, should this prove unavoidable.

The following resolution, also, was adopted: "That it was the sense of the Convention that the dairymen of the country strive to adopt all practical means for increasing the home-consumption of cheese, and that to this end it recommend that each factory should keep on hand some small hoops for the manufacture of small cheeses, such as seem to be required by the home-trade, and that a portion of each factory's make be softer than is required for shipping and such as our home-markets demand; and that a portion be made without colour."

Mr. SCHERMERHORN gave some account of his experience among the cheesemakers in England.

COTTAGE ACCOMMODATION.

At the first discussion meeting for the year of the Tarporley Agricultural Society, Mr. Jos. Ashton in the chair,

Mr. BECKETT said, before entering on my subject in detail, I wish it to be understood that I treat it in a general sense, and not as a local or merely agricultural question, nor have I undertaken the subject for any other reason than as a friendly effort to comply with your invitation on a matter we are all more or less interested in. I also wish to guard myself against being thought to take a needlessly desponding view of the labouring classes and their habits, as though they in particular were sinners, while I forgot they were more "sinned against than sinning" by those who; by a gambling spirit in trade, and reckless adventure, have brought upon us such commercial disgrace, and on some of them not a little distress. On the contrary, no one more willingly grants than I do that some of the best of men have toiled at the workbench and the plough. I willingly agree to Sir Walter Scott's testimony when he says "I have read books enough, and conversed with enough of eminent and splendidly cultivated minds in my time, but, I assure you, I have heard higher sentiments from the lips of the poor, when exerting the spirit of severe gentle heroism under difficulties, than I ever yet met with, except in the pages of the Bible." Moreover, when I speak of the beneficial influences of a good and tidy cottage, I mean the exact contrary of a bad and untidy one. With all the defects of the pre-

sent day, I do not believe in the "good old times" being better, than these, so far as the general intelligence and self-respect of the working classes are concerned. We have at any rate outlived the day when to use a winnowing machine was deemed a thwarting of the will of Divine Providence by raising wind by art instead of soliciting it by prayer, and when clergymen as they did two hundred and sixty years ago—denounced it from the pulpit as impious. From what Bishop Earle says of the English yeoman of his day the working man of to-day is vastly his superior. He says he "Is one that manures his ground well, but lets himself lie fallow and until'd. Hee has reason enough to doe his business, and not enough to bee idle or melancholy. . . . His hand guides the Plough and the Plough his thoughts, and his ditch and landmarke is the very mound of his meditation. . . . His habitation is some poor Thacht rooffe distinguisht from his Barn, by the loope holes that let out smoak. . . . His religion is part of his Copyhold, which he takes from his Landlord, and referres it wholly to his discretion. Yet if hee give him leave hee is a good Christian to his power (that is) comes to Church in his best clothes, and sits there with his Neighbours where hee is capable of onely two Prayers, for raine and faire weather. . . . His compliment with his neighbour is a good thumpe on the backe and his salutation commonly on some blunt Curse. . . . Hee is niggard all the Week except

only on Market day, where if his Corn sells well hee thinks hee may be drunk with a good Conscience." There are, of course, no such yeomen now-a-days. I will first give an outline of what I think the chief points in a good cottage should be, then mention some of the influences fairly to be expected from their possession. Few, I presume, will deny that no dwelling can be fitly called good which has not God's three gifts of clear light, free air, and pure water, supplied to it. It were as well to think of health without these, as to think of seeing without eyes. Neatness and order must rest with the occupant, but the means to that end ought to be provided by the owner. It should be damp proof from below as well from above, and without. There should be a damp course at the ground level, and the walls, if only one brick length in thickness, should be built with a cavity, using iron or slate ties, which add little to the cost, but much to health and comfort. There should be a good-sized living room, not less than 150 superficial feet in area, and 8 feet high. The cooking range should be in this room (and not in the back kitchen), or otherwise it might be made a sort of useless parlour. In the back kitchen should be a copper and a well-trapped sink. The pantry should be well ventilated, and a bakehouse should be provided with the offices outside. The front door is better if not opening direct into the living room. The bedrooms ought none of them to contain less than 650 cubic feet, one of them for the parents having at least 900 cubic feet. The number of bedrooms should differ to suit families varying in numbers, for while two would be enough for an aged or newly-married couple, three and even four would be required for others with larger families. Each sleeping room should either have an open fireplace or a ventilating flue, and all windows should open more or less. There is now neither window-tax or hearth money, as there once was, which even cottages having more than one fireplace did not escape. The celebrated Dr. Darwin was so impressed with a conviction of the necessity of good air, that, being very popular in the town of Derby, once on a market day he mounted a tub, and thus addressed the listening crowd: "Ye men of Derby, fellow-citizens, attend to me! I know you to be ingenious and industrious mechanics. By your exertions you procure for yourselves and families the necessities of life; but if you lose your health that power of being of use to them must cease. This truth all of you know, but I fear some of you do not understand how health is to be maintained in vigour; this then depends upon your breathing an uncontaminated air, for the purity becomes destroyed where many are collected together; the effluvia from the body corrupts it. Keep open then, the windows of your workshops, and as soon as you rise open all the windows of your bedrooms. Inattention to this advice, be assured, will bring disease on yourselves, and engender among you typhus fever, which is only another name for putrid fever, which will carry off your wives and children. Let me again repeat my serious advice, open your windows to let in fresh air—at least once in the day. Remember what I say. I speak now without a fee, and can have no other interest but your good in this my advice." Special care should be taken to drain away all filth. Where earth closets are not used, the cesspool ought to be drained and roofed over. These offices should be placed farther from the dwelling than they usually are. Where it can be had, as much of a garden plot (and no more) should be given as can be managed without loss to the labourer's employer. After some pertinent remarks upon the pressing importance of this subject, Mr. Beckett went on to say that as an auxiliary to education, proper dwellings cannot be overvalued, for England wants not only schools for the teaching of letters, but homes for the teaching of domestic habits and virtues, for as has been well said, "A man is not only what the schoolmaster makes him, but what the daily influence of the sights and sounds of his home and neighbourhood make him; and to oppose the schoolmaster and his teaching to the constant training of dwellings, divested of all that can cheer and elevate, is to oppose the force of a torrent with a twig." The social influences are not less evident. Next to a good parent, or a good wife, I know of few things more calculated to localise or marry a man to his place and occupation—in the country particularly—than a comfortable home, where he can sing—

Far from the city I reside,
True to my hearth—I seldom roam—
Because I find my joys at home:

He was not far from the mark who wrote, "Show me a man

who cares no more for one place than another, and I will show you in that same person one who loves nothing but himself, which you may see verified in the wandering classes—such as gipsies." Nobody will question the fact that there are many cottages so deficient in accommodation as to render common decency all but impossible. Everything that can be done to prevent the sense of decency being blunted in the young is a positive duty; for if you destroy delicacy, and a sense of shame in a young girl you deprave her very fast; and as certainly, that boy is lost who is lost to a sense of shame. It has truly been said that in proportion to the general decency of servants is their general usefulness. Cleanliness, as I have said, may be facilitated, but cannot be secured, however good the cottage—this must rest with the occupants. One thing is certain, it extends to a person's moral character, for whoever knew a person scrupulously attentive to cleanliness who was a consummate villain? and the converse is equally true that filth and virtue cannot dwell together. As a general observation it will be found that where the cottage is neat and clean the inmates are orderly and moral. Then, as to that terrible scourge—drunkenness. I cannot go so far as some to refer, much less excuse this to any great extent to the want of better dwellings; but I am equally not prepared to affirm it has no influence in that direction, and if it has, no better reason could be given in favour of them. All classes have an interest in checking this dire evil, but none so much as the working men themselves. I know all about that much-abused maxim of allowing a man to do what he likes with his own, and I heartily hope this liberty (as far as the traffic in drink is concerned) will soon be abridged; for at the present rate of increase of drunkenness it will sooner or later overwhelm us. Mind you, I am far from inferring the excess in one class is not equally excess in another—the higher the privileges, the greater the responsibilities. A more plentiful supply of cottages would do something to rid us of that other sad blot—bastardy—by facilitating marriage. The vital question yet remains, namely, how or by whom are good cottages to be provided? In a purely agricultural district there is but the owner of the soil who can, and if this duty was only as voluntary and freely undertaken by all as it is by some, there would be no scarcity. That the poor have a claim on the sympathy and help of those whose lot is more favourable, nobody can question; but so long as cottages cannot be let to pay a fair and reasonable return, there can be no absolute claim upon anybody. That they cannot be built to do this on the present low rentals in the country, nobody who has tried it will deny. If cottage-building is to keep pace with the increased rural population, one of three things must be acquiesced in—1. The landowners must either be content with a mere nominal return for their outlay, or (2) farmers must themselves take the responsibility of the increased rental, or (3) labourers' wages must be advanced to enable them to do it. I incline to the last as most equitable and advantageous to the farmer in diminishing the temptation that now exists for young and able men to leave the country for the town, which the present disparity in wages encourages. I grant this disparity is not so great as it appears, when all the disadvantageous circumstances of town employment—such as precarious employment and increased expenses—are taken into consideration. If he fares harder than the artisan he possesses over him many advantages in healthful occupation and domestic privileges. To advance wages may seem a harsh solution at the expense of the tenant farmers, whose business is subjected to such calamities as diseases of various sorts in cattle almost unknown until of late, and difficult seasons; but still, where cottage accommodation can only thus be had, it is a question between a few pence per week additional wages on the one hand, and the still greater loss of having little or no choice in the selection of your labourers, to say nothing of the exhaustion to a man walking long distances night and morning, and the serious drawback to the man himself as to his meals and change of clothes in bad weather. A simpler and less expensive mode of transfer of land for the purpose of cottage building would be an immense advantage. Owners who from reluctance or inability would not build themselves, might be willing to sell comparatively useless slips of land to others, who would, if the expenses were not so heavy. Exceptional cases might be met by the tenant himself erecting cottages at his own cost, to a plan and on a site approved by the landowner. The farmer engaging them rent free for—say thirty years, and in case neither he nor any of his family

retained the farm so long, the outlay should be treated as any other unexhausted improvement, allowing for the annual depreciation and the state they were left in. Except in cases where cottages are on farms, I am not favourable to subletting. I think it liable to abuse, and contrary to the fair and legitimate independence of the workman.

The CHAIRMAN said there were two sides to the question. If they adopted the rule of political economists, not to enter into undertakings for which they would not get a proper return for their outlay, he was inclined to think they would hesitate a while before embarking on cottage building. If he had capital to expend and did not take a very deep interest in agriculture, he would not be inclined to make the same sacrifices which he did make; he would feel inclined to invest very little money in cottages. The plans which had been exhibited by Mr. Beckett were no doubt very good; he did not know that they could be excelled; but a labourer with a wife and five or six children dependent upon him for support, and only receiving 12s. per week through the autumn, winter, and spring, and a little extra for the summer, was in his (the Chairman's) opinion not able to pay more than 2 or 2½ per cent. on the outlay for the cottage he lived in. The subject resolved itself into a very small compass, and very particularly concerned landlords and tenants; and no doubt it would be for their interest to combine to erect comfortable and convenient cottages and be satisfied with a very small return for the outlay, for the good of the community at large. He was inclined to think that, in order to secure a more intelligent and respectable class of farm labourers, men should be placed in such a position that they would be able to bring up their children to act honestly in all their dealings with others, and obediently towards their masters and mistresses, so that they would be obliged to advance their wages. He knew he would be met here by some who would say, "How can this be done with the unfavourable seasons we have lately experienced and with increased rent and taxes?" These were matters of very weighty import, and though they might not be considered to come strictly within the purview of the discussion, he had thought it proper to name them, and it was now open for any gentleman to express his opinions upon what had been advanced.

Mr. THOS. OULTON congratulated Mr. Beckett on the fairness of his representation of the relative positions of landlord and tenant, although from what he had said at a previous meeting he (the speaker) was inclined to think he would go the wrong way. As to it being a tenant's and a landlord's question he thought that the tenant could scarcely, under existing circumstances, be called upon for any great outlay for cottage accommodation. Before the tenant could be expected to take more responsibility upon himself in this direction he must first secure a position on his farm and have a satisfactory engagement or lease. He would be the last man to think of building a cottage on a farm which he held at an annual rental. There were so many things, as they were all aware of, liable to crop up between landlord and tenant, that the latter would not be warranted in going to any great outlay before he could feel that his tenancy was secure. There were political questions, religious questions, and game questions cropping up very unexpectedly at times; and though landlords might profess not to interfere, yet if their action was at variance with their landlords and they did not meet with direct censure or rebuff, there were ways and means by which the landlords could bring their influence to bear so that their tenants could not feel that they were secure and at liberty to do as they wished in going to any outlay. The best way in which an advance could be made would be for leases to be granted of from fifteen to twenty years, and then he did not think that farmers would object to a small percentage being added to their rent if landlords supplied the cottage accommodation necessary. He was quite sure that the want of it was a great evil, and that overcrowding conduced to liability to disease, and that for their own sakes it was obvious that they should do their best to remedy the existing state of things.

Mr. ROGER BATE said, all must feel that domestic servants were among their greatest comforts. Sometimes they might prove otherwise; but really their homes without good domestic servants would be much less like homes than they were. The supply of domestic servants was involved in this question of cottage building. He had heard it said by farmers that those cattle which were bred upon their farms did best, and if they were to have good domestic servants and farm labourers

they must be raised among them. A great deal depended upon how they were raised, and consequently upon the character of the cottages in which they lived. A lack of proper accommodation and the overcrowding of large families would more or less blunt the moral sentiments and do away with that sense of shame of which the lecturer had spoken. They could not expect their domestic servants to come to them from the wretched huts in which they were brought up, with that modesty which they would have if brought up in more comfortable homes, which farm labourers deserved. There was in the minds of most of us, whether they looked to the highest classes of society or the lowest grades of the working class, a love of the country, which, if properly cultivated, would always keep them well supplied with farm servants and labourers. With a comfortable cottage, a good garden, and fourteen or fifteen shillings a week, he did not think the offer of £1 would attract the labourer to the town. Then, in building cottages for labourers, they should locate them as near their work as possible; he did not say close to the homestead or farm, but within easy distance of it. This might be done by permitting slips of land, which were of no value to the landlord or to the farmer, to be grubbed up, and a couple of cottages put on them for labourers, who otherwise might have to walk two or three miles morning and night. If the land could be bought, so much the better, but they knew that many large landowners were not in a position to sell; and supposing that their tenants made an effort to obtain cottages by meeting them, he did not think it wise or politic that the tenants should own the cottages; they should be included in the rental and sub-let, the cottagers paying their rent to the landlord. The question was one of much importance. There were townships through which they could drive and not see a single cottage, and it was not right that they should be denuded of all dwellings except homesteads, and while that was so there would always be a scarcity of agricultural labourers. The towns were always drawing upon the country, and the only way to get labourers to remain was to make them comfortable in their cottage homes, and so secure good farm servants.

Mr. FINCHETT called to mind the paper read by Mr. Beckett two or three years ago on farm buildings, and said he must have remembered the handling he got then, as he had now produced one on which they could all agree. It had occurred to him (Mr. Finchett) that he could add a fourth to the three things to be acquiesced in if cottage-building was to keep pace with the increase of the rural population, and it was this, that builders must be content with less profit. He was sure that at the present time the farmer's position was like the camel's—the last straw would break its back. Some of them had hardly yet got over the period they passed through four or five years ago. As to the labour question, he would be glad if the profits of the farmers would permit of an increase of wages to the labourers, but the position of the farmer was different to that of the manufacturer or contractor, like Mr. Beckett. If he increased his artisan's wages to the extent of 3s. per week it did not matter, because the landlord or the farmer would have to pay it. The farmer, on the other hand, was a producer, and had to compete with his American cousin, who lived on land at a far less rental, and sent his cheese to the English market. He (Mr. Finchett) would be the last to run a man down in his wages, but at the same time there was much less difference than was generally supposed, as Mr. Beckett had said, between agricultural labourers and artisans.

Dr. SELLER, in speaking of the deficiency of cottage accommodation, said he had seen at holiday times half-a-dozen grown-up boys and girls sleeping in one bedroom.

Mr. FINCHETT said there was one other remark he wished to make. He was a Conservative in politics—a Tory as he was sometimes called—and, they might think, rather old-fashioned in his notions, especially as he wished to suggest that it would be an improvement to go back to thatching the roofs of cottages instead of using slates. It was generally considered that a house with a thatched roof was warmer in winter and cooler in summer than one with a slated roof. He had heard of houses with slated roofs which were so excessively hot in summer that the windows had to be kept open.

Mr. W. VERNON spoke of the rights and privileges of landed property, and maintained that there was no necessity for going to superfluous outlay on cottages. From his experience, he considered that a little over £200 would build a block of comfortable cottages, with two good rooms below,

three bedrooms above, and convenient outbuildings. He said there was little room for discussion as they all so nearly coincided with the lecturer, but at the same time he wished that more had been present to hear the lecture and inspect the plans.

Mr. ROGER BATE asked whether Staffordshire tiles would be preferable to slates, regard being had to what Mr. Finchett had said about slated roofs.

Mr. BECKETT said they would, and be more effectual than a thatched roof, which became an increasing rental, notwithstanding that the straw was grown on the farm.

Mr. JOHN VERNON said, as the paper and the discussion seemed to have exhausted the subject, he had great pleasure in proposing a vote of thanks to the lecturer. In doing so he wished to make a remark about thatched cottages. Mr. Finchett seemed to have gone back about twenty or thirty years. Speaking from his experience on Lord Haddington's estate, he (Mr. Vernon) might mention that there were half a score of thatched cottages on it which cost as much to keep them in repair as they brought in rent—they wanted thatching every two years, and the rent paid for them was from 50s. to £3. Then he wished to say that he thought Mr. Finchett was wrong in supposing that a builder could raise the wages of his employes and charge extra for his work as he pleased; the builder had to contend with the same spirit of competition as the farmer.

Mr. BARKER, in seconding the vote of thanks, said that he had no hired servants in his house. All those whom he employed were married men, and he would only be too happy to meet his landlord as far as he could in supplying them with good cottages.

The vote having been carried, Mr. BECKETT replied. Referring to what Mr. Finchett had said, he did not think they should pay off old scores of '68 with capital of '71, and showed the fallacy of the statement that the builder could increase the wages of his men easier than the farmer, by giving an instance where, in the course of carrying out a contract, the materials had nearly doubled in cost; on the other hand, the chief cost upon the farmers' produce—the rental—never varied. The question of estimates *versus* rentals gave rise to arguments both ways. A rental was simply an assumption of what a man could afford to pay, and on that assumption cottages must be considered part of the rental, and it seemed to him that the giving of increased wages was only a milder mode than the increasing of a rental. As to the 4th clause which Mr. Finchett has added, it had been shown by Mr. W. Vernon to be unnecessary, if he could build a pair of cottages, worth calling a pair, for £200. In reference to what had fallen from Mr. Oulton, he disclaimed all self-interest in the advocacy of what he had advanced, and said he had withheld nothing from any selfish motive which they might care to know. He concluded by saying he was obliged to them for the way in which he had been received, and

Mr. OULTON then moved, and Mr. THOS. CAWLEY seconded, a vote of thanks to the chairman, which was duly acknowledged by the Chairman, who took the opportunity of saying that he had remedied the defect complained of in slated roofs by nailing $\frac{1}{4}$ -inch boards on the rafters, and filling the space between them and the slates with clay. He thought no one would revert to the old system of thatching; two thatchings costs as much as one slating.

THE COST OF AN ACRE OF TURNIPS.

At the meeting of the Wester Ross Farmers' Club,

Mr. ARRAS (Fodderty) said: In opening the discussion of this evening, I am anxious to clear away some difficulties that suggested themselves to me on first attempting to handle the subject. It may be asked at the outset what is meant by the cost of an acre of turnips? Is it what they can be grown for, or is it what they can be bought at? The first question is the one I will endeavour to answer as best I can. Then comes the question what is a crop of turnips? and that resolves itself into another two, viz., is the crop to be understood as a small crop grown at least expense, or as a large crop grown at a relative cost? You may grow a crop of 30 tons at a cost of £10, or you may grow a crop of 15 tons at a cost of £5, and you may, of course, grow a crop of "crops and roots" at a cost of little over the rent of the land. Which of these are we to consider the best system to follow? and it is a difficult question to answer, unless viewed in relation to other crops. If turnips must be eaten upon the farm, the answer is easily given; if they be removed, the answer is more difficult. But in calculating the cost of growing this acre of turnips, future crops must be kept out of view, as in the present case we want to arrive at their cost as a crop, and as having no bearing on any succeeding crop. In other words, can we grow an acre of turnips on one year's tenancy to pay all outlay of labour, manure, rent, and other expenses? Or to put it in another way, do we grow our turnips as an auxiliary crop, to have an influence on the whole rotation; or do we grow them because they are the cheapest food we can prepare for stock? I made the remark the other day to a friend that I thought we might try to grow each crop because we get intrinsic value for it. "Oh, then," he said, "what intrinsic value do you get from a crop of fallow?" I said that is a manure and ought to stand against the following crop. Farm operations are so strung together, as it were, on one string, that it is very hard to isolate the cost of any one crop. But in the present hypothesis I will endeavour to do so, and will aim at having as good a crop as I can grow, on the footing that rent and labour are the same, whether I have a 50 ton crop or a 10 ton crop—labour the same of course in preparation, sowing, and hoeing, if not in storing. But I have detained you too long on preliminaries, and will now proceed to details. By the end of September we obtain access to our acre of land, from which we hope to obtain a crop of Swedish turnips, equal to the labour, anxiety, and

expense lavished upon it. We will suppose the land to be good friable loam, of ample depth, to allow the top roots to bury themselves beyond the reach of over an average drought, rather too full of couch grass to suit the tastes of an economical estimator. The first subject of consideration is whether we ought to manure it on the surface before ploughing, or manure it in the drill in spring. Out of deference to generally existing custom, we resolve to defer the manuring till spring. The next matter to consider is how to plough it. Whether to give a single furrow, of ten inches deep, with two horses; or two furrows, seven inches deep each, the one plough following the other, the last one having the mould-board removed; or a single furrow, twelve or thirteen inches deep, drawn by three horses. We reject, on this occasion, the double furrow, as the benefit of such deep stirring would not be reaped from one crop, and to the cost of one crop we are to confine ourselves at present. The same plea holds good in the three horse furrow. Having got that point settled, we proceed to have our acre ploughed, by two stout horses, ten inches deep. They manage to turn over fourth-fifths the first day, finishing the remainder next forenoon. Calculating ten shillings a day as a fair average value of horses and man, the cost of our first ploughing has been 12s. 6d. Leaving the frost to mellow and sweeten the new turned land, we leave it to the care of our wintry friend, till spring calls for its more multitudinous labour. During winter, and when frost sets in, we take the first opportunity of carting out manure from the folds to a large heap, conveniently placed for spring work. We fix on twenty-five loads of rough manure as a suitable quantity, the filling, carting, and unloading of which costs nearly 15s. About the middle of April we give a single turn of the harrows, at a cost of 10d., to level the surface and make the next ploughing or grubbing more easily done. Now comes the oft-debated question whether the spring cultivation should consist of grubbing in opposition to ploughing, or a mixture of both systems. In the present case we grub first, as the land is dirty and not very stiff, the weeds coming up better than when cut by the plough. This is done at a cost of 2s. 6d. To reduce the clods and harrow out the weeds, we require to give four turns of the harrows, two in one direction and two at an angle, or at right angles to the first, at a cost of 3s. 4d. Immediately after the harrowing, and before the sun hardens the knots, the land is rolled at the cost of 1s. To disengage the weeds from the crushed

knots and shake them out, a double turn of the harrows is given at a cost of 1s. 8d. This is followed by a turn of the chain harrows, to roll up the weeds into rolls, at a cost of 10d. The weeds are then gathered into heaps by hand, and removed by a man with horse and cart, at a cost of respectively 1s. 3d. and 1s. (2s. 3d.). As these workings have rather consolidated the land, we now give it a light ploughing, which costs close upon 7s. 6d. (1½ acres). This is followed by three turns of the harrows, to separate and bring to the surface all the remaining weeds, at a cost of 2s. 6d. The weeds not being in this second gathering very numerous, nor the land very full of knots, we escape the expense of another rolling, followed by harrowing, chain-harrowing, and re-harrowing, gathering the weeds by hand, at a cost of about 10d., and removing them for about 9d. (1s. 7d.). We next have to decide what portable manures to use, and fix on the following mixture, viz., 1 cwt. Peruvian guano, 2 cwt. dissolved bones, and 3 cwt. crushed bones, costing 44s. 6d. The expense of mixing and cartage brings up the portable manures, after being placed on the field ready to apply, to about 46s. We select a fine morning—say on the 12th of May—to begin sowing operations. On a farm of about 500 acres, the usual staff required for putting down turnips is five pair of horses, nine men, one boy, and ten women, finishing seven acres a-day, consequently one acre is drilled up and sown for about 9s. 10d. The twenty-five cart-loads of manure carted out in winter may now measure ten yards, which, valued at 5s. 3d. per yard, come to 52s. 6d. The quantity of Swedish turnip seed sown has been 3 lbs. at 1s., making the value of seed sown 3s. Hitherto there has not been much in the management of our land that has caused anxiety, as the working of it has been very much in our hands, but now comes a change. If when we shut the gate on the straight and regular drills, with their six drill edging round them, we could shut out all intruders likewise, it would from many a trouble free us. In the course of a few days the tender shoots are seen here and there, and after a gentle shower and the sun at our back, we can glance the eye along from end to end; the question of expense, which had been intruding itself on our thoughts, is shelved for the present, and brighter thoughts fill up their place. We return to take a fresh look at our new friends in a couple of days. An eastern wind and a cloudless sky we had not noticed on first setting out, and as we open the gate about ten o'clock in the forenoon, we wonder where our friends have gone. Alas! here they are, looking very blue; round holes in some, decapitated stumps are others, and the rest decidedly hard-up. As we gaze in sorrow, a sudden movement here, another there, and others everywhere, reveal the cause. Thousands of *Haltica pumilio* are holding high carnival on the young leaves. The name is by far too good for them, and if they would remain where they came from and halt there, we could understand their name better. However, the wind veers round due west, a refreshing shower brings health and vigour to our plants, and our vaulting friends are done out of their dinner. The rough leaf comes quickly on, and we send a man and horse to scrape the drills with a horse-hoe, which he does for 1s. 5d. The thinning we calculate at 3s., as it is better to spend an extra sixpence now than have the work hurried and ill-done. Again our enemies come to the attack, in the shape of cooing doves, and it is now that 2s. 6d. per pair of horses would be willingly paid, if that would convert them into pies. Had we fixed a sum per pore for herding, none could have found fault. Before long, another horse-hoeing is given, at a cost of 1s. 5d. This is followed by hand-hoeing, at a cost of say 1s., and according to the cost of this last operation, may we estimate whether the thinning has been done well or ill. Thus far the working expenses have been £3 11s. 2d., and the manures have amounted to £4 18s. 6d.; together the figure is £8 9s. 8d.; but as we may find some difficulty in persuading any one to give us that figure for the turnips grown on our experimental acre—for on asking a price, we would feel inclined to add the rent of the land, say 40s., not forgetting tenant's profits, taxes, and wear and tear of implements—we resolve to go on to the end. To occupy our spare time in autumn, we may turn

now and again, and not without profit to ourselves, to consider our balance-sheet. Former calculated cost £8 9s. 8d., rent £2, tenant's profits at the modest sum of 10s., superintendence by grieve 2s., tear and wear of implements 1s. 4½d., taxes 2s. 4½d., together £11 5s. 5d. It can easily be imagined how every damaged turnip is now looked upon with a jealous eye, the more so as we know by sad experience this winter that every one broken by wood-pigeons, rabbits, and hares requires the aid of no machinery to reduce it to pulp. Having these extra fears to push us on, we commence to store them. It is not my place in this paper to give other people's experience as to the best method of storing, either for speed or cheapness, consequently I will keep still, as I have strictly done hitherto, by detailing my own experience. To return to our 6,453 lineal yards of turnips to be lifted, we find it costs close upon 4s. to root and top them. To cart them home and have them thatched costs in ordinary circumstances 29s. 2d. When all is finished, the bill of costs, which I have now the pleasure of placing before the Club for approval or otherwise, consists of the following items:—

Working expenses	...	...	...	£3 11 2
Manure	...	...	...	4 18 6
Rent	...	...	...	2 0 0
Tenant's profits	...	...	...	0 10 0
Superintendence	...	...	...	0 2 0
Tear and wear of implements	...	...	...	0 1 4½
Taxes	...	...	...	0 2 4½
Expenses of storage	...	...	...	1 13 2

£12 18 7

The scope of my present paper does not permit me to enter into the question of how much of that cost ought to be distributed over the other years of the rotation. Certainly a deduction for exhausted manures is more than legitimate; at the same time I cannot see how any one could expect to grow a good crop of turnips by a much less liberal management, even if the following crops were to belong to another interest. Were he allowed to sell them from the farm, the value might cover the cost, but that I have nothing to do with tonight. It certainly seems a vast sum to talk of £1,292 as the cost of one hundred acres of turnips; but let us glance for a moment at a few rough details. Few give less than two pounds' worth of portable manures, and still fewer give less than ten carts of heavy manure in spring, which would be gladly bought in many districts for fifty shillings. In this club we have been told by a very practical farmer that he gave twenty loads per acre, or at the rate of five pounds. The working expenses, as I proved before, cannot be done for less than 71s. per acre, then we have rent, £209, and profits at 10s.—£250. In these five items we run up to £1,055 at once. Then we have seed, taxes, tear and wear, so that my former figure is nearly reached. Before sitting down, I may mention that by manuring the stubbles in autumn we save fully 5s. 1d. per acre, besides being able to do double the work in spring, with the same staff of horses, in drilling and sowing. A most successful and practical engineer made the remark to me the other day in answer to my question, if he could not devise some plan to enable us to lift our turnips independent of human hands—"Well, it is clear," he said, "in the first place, that when you have the crop, you must secure it at whatever cost; if you don't, you lose it, and all your former outlay is gone too." I fancy we don't keep this enough in mind, and if by writing this paper I have indelibly stamped on my own mind that our turnip crop is a most costly and valuable one, and worthy of being cared for, after we have got it, I shall have no cause to regret having taken up the subject of the cost of growing an acre of turnips.

Some difference of opinion prevailed on several points in this paper. The expense of growing was said to be over-estimated. The different qualities of soil had likewise to be taken into account—Mr. Arras worked on a rich loam, while others were on clay and sandy soils, requiring different manures and different treatment. Great stress was laid on the proper storing of the crop, and its protection against frost, wood pigeons, and rooks. Various ways of storing were suggested.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, March 1.*—Present: Lord Vernon, President, in the chair; the Earl of Lichfield, the Earl of Powis, Major-General Viscount Bridport, Lord Chesham, Lord Kesteven, Lord Tredegar, the Hon. H. G. Liddell, M.P., Sir Massey Lopes, Bart., M.P., Sir A. K. Macdonald, Bart., Sir Watkin W. Wynn, Bart., M.P.; Mr. Acland, M.P., Mr. Booth, Mr. Cantrell, Colonel Challoner, Mr. Dent, M.P., Mr. Brandreth Gibbs, Mr. Hornsby, Mr. Wren Hoskyns, M.P., Colonel Kingscote, M.P., Mr. Leeds, Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Ridley, M.P., Mr. Shuttleworth, Mr. Statter, Mr. Stone, Mr. Thompson, Mr. Torr, Mr. Webb, Mr. Welby, M.P., Mr. Wells, M.P., Professor Simonds, and Professor Voelcker.

The Marquis of Hertford, Ragley Park, Alcester, was elected a Governor of the Society.

The following new members were elected:

Averill, Edward, Woodgate, King's Bromley, Lichfield.
 Bailey, Sir Joseph Russell, Bart., Glanusk Park, Crickhowell.
 Balleny, C. David, Red Barns, Newcastle-on-Tyne.
 Beach, Sarah, The Hattons, Brewood, Staffordshire.
 Best, John B., Stanstead Abbots, Ware.
 Blorton, Edward, Wolverhampton.
 Bosanquet, S. Courthope, Tanhurst, Dorking.
 Brewster, Richard, Heathy Mills, Kidderminster.
 Chadburn, F., Cockcliffe Hill, Arnold, Notts.
 Coleberd, R., Purewell Farm, Christchurch.
 Deane, Patrick, Hull.
 Dunn, Jonathan, Kelfield Lodge, York.
 Elliot, John, Moor Park Farm, Rickmansworth.
 Evans, J. Jones, Cwmybarch Farm, Pencader.
 Farmer, Edward, Moreton-in-the-Marsh.
 Firbank, Joseph, Newport, Monmouth.
 Fowler, James, Park Hill House, Ferry Hill.
 Freemans, Edward, Creeping All Saints, Stonham.
 Garfit, Arthur, Scothern, Lincoln.
 Griffin, G. E., Tillington, Stafford.
 Harkes, David, Mere, Knutsford.
 Haslam, J. P., Gilmow House, Bolton.
 Higge, Albert A., The Bath Farm, Penkridge.
 Holehouse, John, Gaer Hill, Chepstow.
 Homfray, Lorenzo A., Woodlands, Newport, Monmouth.
 Hope, A., Peterkin, Fenton Barns, Drem, N.B.
 Jenkinson, Wilson, Schoose Farm, Workington.
 Kerfoot, James, Faenol Bach, St. Asaph.
 Knowles, James, Eagley Bank, Bolton.
 Lee, Thomas S., Brington House, Shifnal.
 Lees, John, Waterloo Road, Wolverhampton.
 Loveridge, Samuel, Chapel Ash House, Wolverhampton.
 Morris, James, Union Place, Oswestry.
 Morton, Francis, 36, Parliament Street, S.W.
 Newhouse, Henry, Tatton Park, Knutsford.
 Parker, Thomas, Aldford, Chester.
 Peake, John, Mullaghmore, Monaghan.
 Radcliffe, Thomas, Cheswell Grange, Newport, Salop.
 Rolls, John Allan, The Hendre, Monmouth.
 Rounding, Thomas, Fraisthorpe, Bridlington.
 Turner, Frank, North Berstead, Bognor.
 Walker, William, Victoria Iron Works, York.
 Wallworth, George, Bridgeford, Stone.
 Wallworth, Joseph, Walton House Eccleshall.
 Wilson, John Wilson, Austin House, Broadway.
 Winterton, Thomas, Alrewas Hays, Lichfield.
 Woonam, Richard, Glandwr, Llanidloes.

FINANCES.—Viscount Bridport presented the report, from which it appeared that the secretary's receipts during the past month had been examined by the committee and by Messrs. Quilter, Ball, and Co., accountants,

and were found correct. The balance in the hands of the bankers on February 28th was £2,062 19s. 8d., £2,000 remaining on deposit at interest.

The committee have to report that the action brought by Messrs. Bradburn against the Society will probably come on for trial at the ensuing Liverpool Assizes. The committee lay before the Council the annual statement of the accounts, by which it appears that the ordinary income of the Society was £6,165 10s., and the expenditure £4,663 10s. 5d., leaving a balance in favour of the Society of £1,501 19s. 7d.; on the other hand, the excess of expenditure over the receipts for the Oxford Show was £2,504 14s. 8d.

JOURNAL.—Mr. Thompson (chairman) reported that the committee recommend that it be referred to a committee to consider the expediency of appointing a botanist and entomologist to the Society, at a small fixed salary, the former of whom would undertake to furnish members with a report on the purity of samples of seed, or the nature of fungi or other vegetable substances injurious to farm crops; and the latter would be prepared to investigate the character and habits of insects infesting a particular farm or crop. The preparation of articles for the *Journal* containing a summary of work done for the Society in these departments of science, or embodying recent discoveries, would also come under the consideration of the committee, which would consist of the *Journal* and Chemical Committees, and the chairman of the Finance Committee. The report was adopted.

CHEMICAL.—Mr. J. Dent Dent, M.P., presented the following report:

The Chemical Committee have elected Mr. Wells as chairman. They recommend the usual grant of £200 be paid to Professor Voelcker for his papers in the late and forthcoming *Journals*: 1, "Field Experiments on Potatoes;" 2, "On the Composition and Practical Value of several Samples of Native Guano prepared by the 'A. B. C.' Sewage Process of the Native Guano Company;" 3, "On Sugar-Beet and Beetroot Distillation;" 4, "On the Best Mode of Preparing Straw Chaff for Feeding Purposes." In presenting Professor Voelcker's quarterly report, the committee would again urge on agriculturists to insist on analysis of the manures and feeding stuffs which they purchase, and would especially caution them against buying low-priced manures through agents, or cake from makers who profess to make various qualities of the same article. The committee call attention to the remarks of the Professor on guano, and are glad to find their previous caution fully confirmed by the views of Mr. Lawes, in his annual circular. Dr. Voelcker states that he was never so fully engaged in analysis for members of the Society as at present, a result which the committee think may partly be attributed to the publication of their quarterly reports, and to the more educated interest taken in those subjects by agriculturists, who are appreciating the value of chemical research; and they are glad to find that the Royal Agricultural Society of Ireland has determined to follow their example, and to publish quarterly reports on these subjects.

Quarterly Report by Dr. Aug. Voelcker.—In the months of December, January, and February comparatively few purchases of artificial manures are made by agriculturists, and in consequence a much smaller number of samples are sent to the laboratory for examination than during the spring quarter. I have, however, to report on the following cases:

1. A sample of artificial manure was sent for examination by Mr. Catchpool, Faring Bury, Kelvedon, Essex, with the request to have its value ascertained in comparison with best Peruvian

guano. This manure was found to have the following composition :

Moisture	...	...	...	...	9.65
*Organic matter	...	...	...	...	13.54
Phosphate of lime	...	...	...	...	4.99
Carbonate and sulphate of lime	...	...	...	...	48.77
Alkaline salts and magnesia (principally common salt)	...	...	...	...	3.22
Insoluble siliceous matter (sand)	...	...	...	...	19.83
					100.00
*Containing nitrogen	...	...	...	...	1.12
Equal to ammonia	...	...	...	...	1.36

The large quantity of carbonate of lime (chalk), sulphate of lime (gypsum), and sand, amounting, together with the moisture in the manure, to rather more than three-quarters of the weight, leave but little room for the more valuable fertilising constituents of manure. Making no deduction for the bulky, cheap, or absolutely useless matters, for which carriage has to be paid, the intrinsic commercial value of the phosphates and the nitrogenous organic matters (yielding only 1½ per cent. of ammonia) does not amount to much, and the manure certainly would be dear at £3 a ton in comparison with the price at which Peruvian guano is sold. I have written for information with respect to the vendor of this manure, and the price at which it was sold, but have not received an answer as yet.

3. I beg to direct attention to the subjoined analysis of four samples of bone-manure, showing the great differences in the quality and value of different samples :

Composition of Four Samples of Bone-manure sold in Cheshire.

	No. 1.	No. 2.	No. 3.	No. 4.
Moisture	25.04	21.54	9.28	20.42
*Organic matter	15.28	19.75	31.23	13.74
Phosphate of lime (bone-earth)	34.10	47.72	45.49	48.01
Sulphate and carbonate of lime	13.44	7.27	9.32	6.43
Alkaline salts and magnesia	4.01			3.22
Insoluble siliceous matter (sand)	8.13	3.72	4.68	8.18
	100.00	100.00	100.00	100.00
*Containing nitrogen	1.37	1.95	3.54	1.34
Equal to ammonia	1.66	2.40	4.29	1.62

Nos. 1, 2, and 4 are boiled refuse bones of glue makers. No. 3 is genuine raw bone dust, not very clean, but, on the whole, of fair average quality. No. 1 boiled bones, contains one-fourth of its weight of water, and contains more sulphate of lime, salt, and sand than genuine boiled bone dust. Nos. 2 and 4 are too wet, but they are otherwise genuine boiled bones ; and No. 4 contains rather more sand than it ought. Assuming No 3 to cost £8 a ton, the comparative money value of these four samples will be : No. 1, £5 a ton ; No. 2, £6 15s. a ton ; No. 3, £8 a ton ; No. 4, £6 6s. a ton*.

A sample of guano was sent for analysis by Mr. Samuel Fitton, Cheerbrock Farm, Nantwich, who informs me that he

* The samples 1, 2, 3 were sent on Feb. 2 by Mr. Leather Delamere Lodge, Northwich, and on the 15th the following letter was received from him with sample 4 :

“Dear Sir,—The sample of boiled bones recently analysed by you for me was given to me as genuine by Mr. Rob. Ashworth, of Frodsham. On showing him your analysis, he stated that the sample of bones given me was taken from ‘sweepings,’ and was not a fair sample. This he appeared to think would explain the large proportion of water as well as sand. He has given me, therefore, a fresh sample, which I forward to you to-day for analysis.—Yours faithfully,
SIMON LEATHER.”

In a subsequent letter Mr. Leather gives the following as the prices of the several samples, and the names of the dealers who supplied them :

No. 1.	J. Ashworth, Frodsham	...	...	£6	7	6
2.	Runcorn Bone Works	...	...	6	15	0
3.	J. Ashworth, Frodsham	...	...	8	0	0
4.	Do. Do.	...	...	6	6	0

bought the guano from Messrs. W. Shaw and Co., Liverpool, at £14 10s. per ton, delivered at a station near Nantwich (less 5 per cent. for cash), guaranteed pure. The analysis showed that the guano was much adulterated with sand, gypsum, and earthy matter, and in consequence yielded much less ammonia and phosphates than genuine Peruvian guano. As far as I could judge this adulterated guano corresponded to a mixture of about three-fifths of genuine guano by weight, and two-fifths of yellow sandy loam, and similar adulterating materials ; and in comparison with genuine Peruvian guano, selling at £14 10s. per ton, it was not worth more than £8 14s. per ton. In reply to my inquirer, Mr. Fitton wrote as follows : “I am sorry the guano is not pure ; I enclose the invoice. I bought it from a salesman of Messrs. W. Shaw and Co., his name is Oakes. I told him distinctly when I bought it from him that I should get it analysed. He said he should be glad if I would, as it was a pure guano, and it would be to his advantage.”

On receipt of my report Mr. Fitton communicated the result of my examination to the vendors, and in return received the following letter :

“The Old Hall, 39, Old Hall Street Liverpool.
“Dear Sir,—We have just discovered that our shipper has made a most egregious error in sending you *Upper* Peruvian instead of Peruvian guano ; will you therefore please return it at once, as the whole cargo is ordered for transhipment. Will you also kindly see Mr. Bowker, and request him to return his also. Will send the same quantity of Peruvian as soon as possible.
“We are, dear sir, your obedient servants, pro Wm. Shaw and Co.,
“R. OAKES.
“P.S. Shall be in Cheshire to-morrow, and will call at your place.”

The guano was returned by Mr. Fitton, and genuine Peruvian sent instead of the so-called Upper Peruvian.

4. I beg again to direct attention to the variable quality of genuine Peruvian guano. Peruvian guano, I regret to say, appears to be nearly exhausted, and recent importations not only contain a considerable proportion of large stones and fragments of rock, but also fine sand, which cannot be readily detected without a chemical examination. The following analysis of a sample of Peruvian guano affords a good illustration of its increasing deterioration :

Composition of a Sample of Guano sent by Mr. John Baker, Hargrave, near Kimbolton.

Moisture	...	...	...	...	11.23
*Organic matter and salts of ammonia	...	...	...	...	38.89
Phosphate of lime and magnesia (bone-earth)	...	...	...	...	23.92
Alkaline salts	...	...	...	...	7.73
Insoluble siliceous matter (rock and sand)	...	...	...	...	18.24
					100.00
*Containing nitrogen	...	...	...	...	8.76
Equal to ammonia	...	...	...	...	10.62

This guano is genuine Peruvian guano, but it will be seen that it contains a large proportion of the *bedris* of the rock on which the guano was deposited, and yielded little more than 10½ per cent. of ammonia, or only about two-thirds the amount of ammonia which Peruvian guano of fair average quality used to contain. Messrs. Thompson, Bonar and Co., the Peruvian Government agents for the sale of guano, have recently acquainted their customers that they have no more Chincha Is- and guano for sale in London, and they offer now Guanape Island guano at a reduced price, and quote the price of Government Peruvian guano at £12 per ton. Guanape guano, as far as my experience goes, varies in composition to a greater extent than Peruvian, and the better samples are not equal in value to Peruvian guano. It is, therefore, highly desirable that purchasers of Guanape Island guano or Peruvian Government guano should know what the quality is of the guano that is offered at a reduced price, and I would strongly advise them to insist upon being supplied by the dealer with an analysis guaranteeing the quality of the particular cargo of guano which is offered for sale. Like other guanos varying in composition, Guanape guano should not be sold at a uniform price, but at rates corresponding with the intrinsic commercial value of different lots, which can only be ascertained by an analysis

that may be fairly expected to be presented by the dealer to intending purchasers.

5. Rape cake is frequently so full of wild mustard that it cannot be safely used for feeding purposes. Several cases of rape cake quite unfit for feeding purposes were brought under my notice during the last quarter, and in one instance such cake did serious mischief to the cattle which were fed upon it, being made from seed largely contaminated with wild mustard seed.*

6. Cases of adulterated linseed cakes have been referred to me lately, from the neighbourhood of Market Deeping and Hertford, in which beechnut and earthnut cake were found in cakes with the mark of the maker indicative of the purity of the article. In these cases I made inquiries respecting the names of the dealers, but experienced unwillingness on the part of the buyer to have publicity given to the particulars, which deserve exposure.

These reports were adopted, and were ordered to be published in the agricultural journals.

VETERINARY.—Mr. Milward presented the following report: On March 2, 1870, the Veterinary Committee recommended and the Council approved of a grant of £25 being made to Professor Simonds for investigations with respect to pleuro-pneumonia, and measures to be adopted for its prevention. In consequence of some questions raised by the Governors of the Royal Veterinary College, the money was not paid over to him until August 5. This committee in December expressed their regret that no report on the subject had been received from Professor Simonds. The Professor has attended the committee to-day, and reports that he has obtained no results from the experiments hitherto carried out on the animals so purchased, with respect to pleuro-pneumonia; but that he has carried out investigations on acorn-poisoning with the same animals, from which he has obtained interesting results. The committee regret exceedingly that such results have not been communicated to them, and that they have not received any information on veterinary subjects from the Professor since the Report of the Governors of the Royal Veterinary College, received April, 1870, and they are farther of opinion that a quarterly report ought to be presented by the Veterinary Professor to this committee, calling the attention of the Council to any matters of interest in veterinary science which have occurred during the quarter, including the outbreak, progress, or diminution of diseases affecting British flocks and herds.

On the question "That this report be adopted," Mr. J. Dent Dent, M.P., stated that the position of the Council and the Society in reference to veterinary questions appeared to him very unsatisfactory. Last year the Council had made an attempt to improve matters, in the belief that if Professor Simonds were independent of the Royal Veterinary College he would be able to keep the Society supplied with the latest information, and to carry out, at the expense of the Society, such investigations as might be deemed desirable. Nobody, in his opinion, had such means of giving the Society information as Professor Simonds, but in the present condition of affairs he felt it was a question whether they should not re-consider the whole question of the veterinary department of the Society once more, as on such important subjects as the spread of rinderpest in France, the working of the Contagious Diseases (Animals) Act, acorn-poisoning, and splenic apoplexy as a result of feeding cattle off land irrigated with sewage, they had as yet received no report from their veterinary inspector.

Mr. THOMPSON observed that if Mr. Dent had not raised the question now he should have brought it forward after Easter. He recounted the successive efforts that had been made by the Council to place their relations with the Royal Veterinary College on a satisfactory footing; and, while bearing testimony to Professor Simonds's ability, and to the value of the papers which he had written for the *Journal*, Mr. Thompson thought that the

time had now come when the Society should have its own Veterinary Professor.

Professor SIMONDS stated that he had not interpreted the alteration of the arrangements last year, in reference to himself, in exactly the same manner as the Veterinary Committee and Mr. Dent, otherwise he would have been glad to have forwarded reports from time to time on such subjects as had been quoted. He considered that his attention had been directed entirely to the question of pleuro-pneumonia, a disease which sometimes took ten weeks to incubate; therefore, although his endeavours had twice failed, he did not think that he had lost much time. Numerous experiments had been carried out by him in reference to acorn-poisoning, but the investigations were not yet sufficiently complete for publication and were still being continued. In reference to cattle-plague, he had considered that every one had been made acquainted with what had happened through the newspapers, but he would have been glad to give information on that subject, and also on splenic apoplexy, if it had occurred to him that the Society desired it. In reply to a question by the Hon. H. A. Liddell, M.P., in reference to the precautions that had been taken by the Government to prevent the introduction of cattle-plague into England, Professor Simonds replied that cattle from all foreign countries (Holland excepted) were killed on arrival at the port of landing, and no animal coming into London or within the cordon at other ports can leave it alive, except in the case of dairy cows, which under certain restrictions are allowed to be moved out of the metropolitan area. No animal has hitherto arrived in England affected with cattle-plague, and there has been but one case of imported pleuro-pneumonia.

Ultimately the report of the Veterinary Committee was adopted, as well as the following resolution, which was moved by Mr. THOMPSON, and seconded by Mr. MILWARD: "That the Veterinary Committee be requested to make a special report on the arrangements now in force for supplying the members of the Society with veterinary information and reports on diseases amongst cattle or other live stock; and whether in their opinion these arrangements may with advantage be modified."

GENERAL, WOLVERHAMPTON.—Lord Kesteven reported the recommendation of the committee that the secretary be instructed to advertise for refreshment tenders, and to make such arrangements for obtaining refreshment contracts, as may be desirable; and that the local committee be requested to carry out the plan of drainage of the showyard, which had been submitted by Mr. Webb and approved by the Showyard Contracts Committee, and the representatives of the local committee. It was also recommended that in consideration of the local committee undertaking to drain the showyard according to the plan and estimate given by Mr. Webb, and to have the same completed by the 20th inst., the Council will release the local committee from forming a siding into the trial fields, it being a condition that the local committee shall make such arrangements as shall ensure the implements for trial being delivered on the trial fields without any increase on the charge that exhibitors would have paid if the said siding had been found for their use. The committee further recommend that the names of Sir John Morris, Kt., and Mr. Charles Matthews be added to the list of the local committee.—This report was adopted.

SHOWYARD CONTRACTS.—Mr. Randell (chairman) reported the recommendation of the committee that Mr. Penny's tender for the erection of showyard works be accepted; and that the attention of the local committee be directed to certain works required to be done in the showyard at Wolverhampton.—This report was adopted.

IMPLEMENT.—Col. Challoner (chairman) presented the

* I analysed four pieces of this cake for Mr. Percival Harlam, of Gilnow House, Bolton, who had bought it from Mr. J. Andrew, corn broker, Liverpool.

Following report: A letter from Mr. Easton having been read, it appears to the committee that there is no vacancy in the office of Consulting Engineer; and the committee are of opinion that no change should take place for the present. The committee therefore recommend that Mr. Easton be requested to report in writing to the Implement Committee what arrangements he proposes to make for conducting the trials at Wolverhampton, both as regards his own supervision, that of his staff, and as to the testing machinery to be employed.—This report was adopted.

SELECTION.—Mr. J. Dent Dent., M.P., reported that the committee recommend that Major-General Viscount Bridport be elected a trustee in the room of Mr. T. W. Bramstone, resigned; and that Lord Vernon be elected a Vice-President in the room of the late Lord Walsingham. The committee also recommended a form in which the vote of thanks of the Council should be presented to Mr. Amos. This report having been adopted, Mr. Randell moved, and Mr. Milward seconded, the resolution that Major-General Viscount Bridport be elected a trustee in

the room of Mr. T. W. Bramstone; and Mr. Wells, M.P., moved, and Col. Challoner seconded, the election of Lord Vernon as a Vice-President, in the room of the late Lord Walsingham.—Both resolutions were carried unanimously.

A committee, consisting of the Implement and Stock Prizes Committees, was appointed to recommend judges of stock, implements, wool, butter, and cheese, at the Wolverhampton meeting; and the secretary was instructed to announce that he would be glad to receive from members of the Society until March 15, the names of gentlemen willing and able to act as judges in those departments.

On the motion of Mr. Torr, seconded by Mr. Shuttleworth, Mr. Booth was nominated as Steward Elect of Implements.

An application from the Appleby and Kirkby Stephen Agricultural Society for the loan of the Society's plough dynamometer was granted, subject to the usual conditions.

A letter was read from the secretary of the Glamorgan-shire General Agricultural Society.

THE FACTORY SYSTEM OF CHEESE-MAKING.

At a meeting of the Cheshire Chamber of Agriculture,

The CHAIRMAN (Mr. R. Barbour), of Bolesworth Castle, in calling upon the secretary, Mr. T. Rigby, to read a paper on "The Factory System of Cheese-making," said it always afforded him pleasure to do everything in his power to promote the improved manufacture of cheese throughout Cheshire, and he thought Cheshire farmers had nothing to fear if they would only make a good article. So far as he had considered the question, he was inclined to be sceptical concerning the beneficial results which it was alleged would follow the introduction of the factory system of cheese-making into Cheshire. No doubt in certain localities cheese factories would be of great advantage; but, looking at the county generally, as most farmers had appliances for the manufacture of cheese, and wives and families to take charge of the dairy department, it appeared to him very problematical whether such a change as that proposed would be productive of much good. What he had before suggested to raise the average quality of cheese was this: the enlargement of farms to such an extent that cheese-making would become really profitable. And landlords were beginning to carry out the principle of putting two or three small farms together, so as to let them to intelligent men of capital, who could make cheese on a large scale. At the same time he admitted that it would be a great evil for all the small holdings to be absorbed in large farms, and that was one reason why he would be delighted if he were made a convert to the factory system.

Mr. RIGBY put the question—"Is it desirable to introduce the factory system of cheese-making into Cheshire?" He said: We are being constantly told that the character of Cheshire cheese has deteriorated largely in the last few years; that American cheese has improved so much as to be fast running it out of the market; and that the latter owes this improvement to its mode of manufacture in factories of buildings specially adapted for the purpose; and the inference urged upon us is that we must adopt the same system if we would keep our place or retrieve lost ground. He said that with a view to ascertain the truth of these statements he had made inquiries among country factors and London cheesemongers, and although their reports did not all agree on the first point, yet they all made such admissions as led him to think there was some truth in it, while they all agreed in the two latter statements. About one-fourth of the annual make of the county, say country factors, is of decidedly inferior quality; one-half is of average good quality; and one-fourth, say most of them, is superior or fine cheese. One gentleman estimates the latter at only one-seventh of the whole, while another puts it at three-eighths, but he styles it "fine, or approaching fine." All of them but one say, "We do not think there has been any im-

provement in the quality of Cheshire cheese in the last 20 years, and there certainly is not more than the same number of fine dairies." The exception named "thinks the cheese of the present day is richer than it was formerly, and more suited to the taste of the consumer." Having given the testimony of several London dealers to show that Cheshire cheese was "nothing like so good as it used to be," that it was "short of meat," and that Cheddar and American had supplanted Cheshire in the West End of London, he went on to say that there should be much variety in the cheese made in Cheshire is clear from the fact that it is made from various numbers of cows, in houses of every variety of size, position, and accommodation, and on every kind of soil and pasture. Its mode of making is the same all over the county in its leading features, but very little is known of the essential principles of the operation. The thermometer is used in fixing the heat of the milk before adding the rennet, but this is about the only step taken by rule. The quantity of rennet requisite for the purpose of coagulating the curd is invariably guessed at, and this is made day by day without reference to its relative strength or power. Salt is added to the dried curd before vatting, by taste, and not in any definite proportion; and opinions are vague and vary much as to the most suitable temperature of the kitchen in which cheese should be made, the press-house in which it is pressed, and of the room in which it is placed to ripen. It is not surprising, therefore, that Cheshire cheese should vary in character, and that some of it should be of inferior quality. It would really be more surprising if it were not so. Cheese-making as now carried on, is a most laborious and anxious work to the farmer's wife, and the help necessary thereto becomes increasingly difficult to deal with, both in regard to social life and to the question of wages; and we should be prepared to hail such a change with pleasure if it would only relieve us from these difficulties, and much more if the work were done cheaper and better. Can better Cheshire cheese be made in factories than in farm-houses, if the dairy of the farm-house be presided over by a skilful and clever cheese-maker? I think not. The managers of factories generally adopt the Cheddar plan of manufacture, as the basis of their operations, and wisely so, as it is more easily adapted to definite rules than the Cheshire mode of making, and it is probable that better cheese will be made in this case than the bulk of that which is made where the management is not first-class. In the one case a trained mind directs and regulates every movement with tried skill, and on principles that have been clearly demonstrated; in the other we have a dozen managers who make cheese in blind assurance with less than ordinary intelligence and thought on the subject (in the majority of cases), and after a plan much more difficult. The in-

ference is, I think, clearly in favour of the factory on this account alone. Another matter that will conduce to it also will be the better dairy arrangements for making and for ripening cheese at factories than exist at the average of farms in the county. A third thing in favour of cheese factories is the better value that would accrue to small farmers from having their milk made up daily into the most valuable sized cheese. When milk has to be kept until three or four meals can be joined together to make a small-sized cheese the quality is rarely good, and when it is made of two meals into a cheese under 35 lbs. weight, although equally good, it suffers deterioration of price of from three to five shillings per cwt. compared with what it would yield if made into a cheese of 60 to 80 pounds weight. These three points—superior skill at the factory, better accommodation, and a larger sized and more valuable cheese—are, I think, in favour of factories, and tend to prove there would be much gained by their adoption as regards quality. There are one or two qualifications of the advantages which must be considered. First, milk may be brought to the factory during hot weather in a sour state; and this, if mixed with sweet milk, will injure the character of the cheese. Second, some patron's milk may be richer than that of others, because of the breed of his cows, his better pastures, or higher feeding, but he can only get a return of weight in curd from the average of the whole. Again, some persons may milk the cow with the iron tail into their cans before sending them to the factory, with a view to get a higher value for their milk than they are entitled to, and at the expense of their partners in the enterprise. The first and the last of these objections are easily corrected. The first by scrupulous cleanliness, and by cooling the milk before sending to the factory, as is done by those who send milk to Liverpool or Manchester; and the latter by the expulsion of the offender as soon as his dishonesty is discovered, which would be the case quickly by a diligent manager, both by the weighing machine and the testing tubes. The second objection is not so serious as it appears at first sight, for though the milk of one cow in a herd may be much richer than another, yet there will be little difference found between the milk of one herd and that of another, when the average quality is tested. The second point of inquiry to us is the comparative cost of making cheese at the factory and at the farmhouse. Mr. Coleman, in his paper on English cheese factories, estimates the cost of manufacturing the milk of 750 cows in a factory at £300, and that of the work, when done at thirty different homesteads in Derbyshire, at £1,050, and shows a gain of £750 by the former mode, or just £1 per cow. This result seems too good, and sets one thinking. The latter item is certainly not overstated. Thirty-five pounds per year for making cheese from 25 cows is within the limit. There are one or two items omitted, however, which I think should be added to the debit of the factory. The cost of sending milk through the season from 30 farms to a central point to be made into cheese must certainly be great, and as it is incidental to the scheme it ought to be charged. At an average of £8 per year—the estimate Mr. Coleman gives of a favourable case—this would amount to £240. Another item is the payment of 30 milkers for doing the work of the 30 dairymaids dispensed with; this, at 4s. per week, for 25 weeks say, would add £150, and together reduce the £750 to £350, or a little less than 10s. per cow. The same class of estimate (and it seems a fair one), applied to Cheshire, should assume the average number of our stocks as 30 instead of 25, and may be thus stated:

25 farm dairies of 30 cows each	...	...	...	750
Wages of 25 vessel cleaners or assistants to the mistress or dairymaid, at £12 per year	£300	0	0	
Board of ditto at £20 per year	...	...	500	0 0
			£800	0 0
Cost of factory of 750 cows—				
Manager	...	...	150	0 0
Assistants to ditto, as per Mr. Coleman's estimate	...	...	150	0 0
Cost of sending milk to factory, 25 at £8	...	200	0	0
Ditto of 25 milkers, in lieu of vessel cleaners dispensed with, 25 weeks at 4s. each	...	125	0	0
Balance gain by factory	...	...	175	0 0
			£800	0 0

Or a saving of nearly 5s. per cow in the manufacture at the factory.

On this ground again much may be said in favour of factories, a saving of 5s. per cow in cost of manufacture of cheese in the whole of the stocks of Cheshire would amount to a handsome sum. There are other advantages also which I would briefly enumerate. First, a saving in cost of farm buildings to landlords. One factory, with all the advantages of position and arrangements to save labour that can be devised, could be erected for a much less sum than is required for providing dairy accommodation of an inferior character at a number of farm houses. Second, no capital would need to be locked up by the farmer in dairy vessels, cheese presses, and other requisites. Third, the comfort of a farmhouse would be greatly promoted by the cheese-making being taken away—mistresses, and young mothers especially, would be greatly relieved; and, fourth, it would tend to promote a higher state of morality among farmers in making the observance of the Lord's day more easy. The Sunday's milk could be sieved up for churning and making into butter during the week, and thus all labour on that day avoided. Mr. Rigby said that his third statement might be questioned. No doubt "having nothing to do" is harder work than "too much labour," but this is a visitation most unlikely to fall upon Cheshire farmers' wives. Their own families, the system of in-door male service, and the superintendence of the despatch of milk, morning and evening, would be a most effectual preservative. One of the most objectionable features of the factory system to me a little while ago was the abstraction of all the whey from the farmhouse; but I now think it would be disposed of to the farmers's advantage better under the factory system than it is at present. As pig food whey has comparatively little feeding property alone, and is of most value when mixed with ground corn, and the more skilfully it is so used the higher its value. If piggeries were erected at the factory on the best principles, and the fattening of pigs pursued on a scale that would use up the whey most profitably, the result would be at least equally, if not more, satisfactory. True, this course would reduce the amount of manure now made by pigs in our farmyards; but there would be the same manure made at the factory, which could be purchased at its market value, and carted back to the farm. This course is pursued now by farmers resident near our populous towns, their produce being taken in and manure brought out regularly with mutual advantage. The portion of whey requisite for household purposes could be purchased and brought back daily; and the butter and buttermilk resulting from the Sunday's milk, if used as I suggested, would yield an ample supply for all the wants of a family, and leave something considerable towards current expenses. After thanking them for the kind hearing they had given him, Mr. Rigby said: Let landlords who have defective tenements for the purpose of cheesemaking erect a factory upon their estates, in a central point, as a trial, and let those who supply milk be honest with each other, and under efficient management success must follow. And as "nothing succeeds like success," it will follow quickly. If, however, the principle is wrong, there could be no better way to expose its fallacy.

MR. J. COLEMAN (Quorndon, Derby), who had been specially invited to be present, said he was very glad to have the opportunity of making a few remarks upon what they, in Derbyshire, considered to be the advantage of the factory system. So far, they had done nothing but experimentalise, and their experiments had been carried on in public factories, open to everyone who choose to come and see what was going on. Many things of importance they had to learn, or find out, and they were learning and finding out yet. Having farmed in Suffolk, in Norfolk, and in Bedfordshire, he and others found out that there was not the class of farms in Derbyshire to which they had been accustomed, simply because the tenants had not sufficient capital, and therefore the factory system was looked to as a means by which the produce of many farms could be condensed, and more capital placed in the hands of the occupiers of land. If the factory system enabled them to effect this, it would be of the greatest benefit to the landlord and tenant. In Derbyshire the movement was taken up by the landlords and backed up by the tenants. They adopted the co-operative system, so far as they could, because they did not like to introduce a third party between the purchaser of cheese and the farmer; and, as they all knew, farmers' profits were not too large. He would be sorry to say anything which would lead anyone to infer that they were prejudiced in favour of the factory system; they only wanted others to experimen-

talise in the same way, and would be glad to give all the assistance they could to any gentleman or gentlemen who might set up a factory. As to the objection that the milk would turn sour, surely if milk could be delivered in London, Manchester, or Liverpool, sweet from the country, it could be conveyed two or three miles to a factory. Concerning the qualities of milk from the different farms, he confessed there had been more "bother" than about anything else. Of course, in their first year, they had not subjected the milk to any tests beyond the cream test, and the use of the lactometer, for the purpose of seeing what quantity the cow with the iron tail might have given; but he thought that by the aid of chemistry they might yet be able to apply some thorough test. There must have been a certain standard up to which all milk must come, and if it did not, a deduction must be made, while, on the other hand, something extra must be allowed to those whose milk was above the standard. Take, for instance, the case of a man who had been sending his milk to London, and at last had it refused. He (the speaker) asked the farmer how he fed his cows, and the answer was, on grain and mangold wurzel. This sufficiently explained why the milk was rejected. The cattle did not have the rich nitrogenous food they required, and consequently the milk was poor and contained a large percentage of water. As to the milk sent to the factory being watered, they had one suspicious case, which was soon found out and did not occur again. Mr. Rigby took exception to the figures he (Mr. Coleman) gave before the Farmers' Club a fortnight ago. He stated the case as it stood or as he fancied it stood, in Derbyshire, and would remark that the management of the factory would be less than he stated, because he had represented the season as lasting 40 weeks, and charged wages for that time. If a person had a large number of cows, as some of the speakers at London, who had 200, they might commence a small factory at once; but with them, as with the holders of small homesteads, it was not so much a saving of labour but an increased value of the produce that was aimed at. He said again that the cost for labour was about £1 per cow. Of course he did not deduct the carriage of milk to the factory. But most of them had ponies and carts, and if the milk were delivered twice a day they could easily calculate the cost of that. He did not mention that, and for this reason, that there would be a great gain on the side of the factory system for which he did not take credit, in being able to purchase all the commodities they required for the manufacture of cheese at a wholesale price. Then again, only one fire was kept going at the factory for heating and scalding purposes, where twenty or thirty would otherwise be required, so that there must be a considerable gain in fuel alone, of which he had said nothing. Therefore, on these grounds he was quite prepared to go into figures to show that the gain on the factory system would be fully what he had stated. Then, as to the value of whey, he considered that there was not so much in its intrinsic worth as in the inducement it afforded to the farmer to use other materials or feeding stuffs on his farm. But if gentlemen with large dairies would give a little more corn to their cattle instead of so much to their pigs, they would make up for any small loss which might arise on the score of pig feeding. It was his belief, and speaking of Derbyshire he was pretty certain, that dairy cows were not kept well enough. They were turned out very poor, and it took them months to get into their natural condition. He hoped that the factory system would be introduced, and that they would have better farming than they now had in some dairy districts. If they thought it would lead to impoverishment of the land, or detract in any way from the mode of farming at present pursued, for his own part he would not defend it for one minute. He would be glad to answer any questions which might be asked, and before sitting down would read a letter he had received from a gentleman in that county. The writer asked for a copy of the paper which he (Mr. Coleman) read in London a fortnight ago, and concluded by stating that he made ten tons of cheese annually, and generally secured a high price for it. He had just realised 92s. per cwt. for upwards of a ton, and he knew a farmer who had made 100s. of a small quantity. The writer said, "You must admit that factories would be of no use to parties making such cheese."

Mr. Jos. ASTON rose as the writer of the letter, and said that he found he had made a mistake, that the price he obtained fell short of 92s. by 1½d.

Mr. JACKSON: What has been the lowest?

Mr. ASTON: 70s. 6d.; but nearly all fetched over 80s. He stated that he had been instructed to apologise for the absence of Mr. John Tollemache, who considered that the meeting was rather premature, and that they should have waited for the production of the balance-sheet from the two Derbyshire cheese factories before attempting to decide whether it was desirable to have factories in this county or not. He said he was at a loss to know how farmers' wives would be profitably employed if all the milk were sent to the factory; and that if the farmers' wives on his estate were to be told that cheese-making was drudgery, they would laugh at it. Still, Mr. Tollemache thought that this meeting might be the means of doing good; and it had already stirred him up to look more thoroughly into the subject of cheese-making, and, if possible, he was resolved to make better dairy arrangements on his farmsteads; and he thought if other landlords would properly attend to this matter better cheese would be produced in private dairies than in public manufactories. Having delivered Mr. Tollemache's message, he (Mr. Aston), as a dairy farmer, would give his opinion upon the question before the meeting. That as good, if not better, cheese on the average may be made in the Derbyshire and American factories than in private dairies he was quite prepared to admit; but that a more superior article could be manufactured in a pretty good number of private dairies than in any public factories he thought he was in a position to prove. At a dairy convention, which took place in December last, a private dairyman stated that he obtained 16 cents. per pound for an entire lot, which could not be secured by the public factories. And at another meeting which took place a short time afterwards, when one of the speakers put the question, whether as good cheese could be not made in private dairies as in factories, a number of gentlemen spontaneously rose and unhesitatingly stated that better cheese was made in private dairies than in public factories; and it did not appear from the report that those statements were contradicted by any of the following speakers. He had been through the two factories in Derbyshire, and saw a number of cheese cut, which he must admit were better than he supposed could have been produced by associated dairies; still in his opinion they were not equal to a pretty good number of private dairies in this county. He had also taken the opinion of gentlemen in the cheese trade in London as to the real merits of the Derby factories, and they were in favour of them; but after examining the cheese and pointing out some of their good qualities they said the flavour was not fine, and it was his (the speaker's) opinion that it was not possible for any person under the present system to produce a really fine flavoured cheese from associated dairies. The statement made by Mr. Schermerhorn, the manager of the Longford factory, that the price of milk was too high in England for factories to become general, he (Mr. Aston) considered to be damaging to the movement. He stated that farmers found that beef and mutton paid better than dairying, and he (Mr. Aston) would prefer feeding beef and mutton at the present prices of meat to sending his milk to a factory at 6½d. per gallon. After careful consideration, and looking at the subject in all its bearings, he was still of the opinion which he advanced three years ago when the question was first mooted, that factories might be beneficial to some farmers, those making inferior dairies and those farming more for pleasure than profit, but for a large farmer who was producing a decent article to send his milk to the factory would be, in his opinion, making a great sacrifice. He milked from 50 to 60 cows, and if he were to do so he did not hesitate to say that it would be at the very least £200 per annum out of his pocket. The advocates of the system asserted that if milk were sent to the factory, expenses at home would be greatly diminished and female drudgery abolished; but he maintained that, in many instances, the contrary would be the case. If the milk were sent to the factory, the majority of farmers would only be able to dispense with the services of one female servant, and that would be made up by the wages of another to cart the milk twice a day to the factory. Many of them present well knew that one of the greatest difficulties which the dairy farmer had to contend with was that of getting cows properly milked. He knew some who could not secure milkers at any price. A large number of labourers' wives positively refused to engage in the work, and it was his opinion that they preferred taking part in cheese making to milking a lot of cows on a hot summer's evening. So that if they

sent the milk to a factory the lion's share of the drudgery would be left at home. Further, where there was sufficient accommodation—and some landlords were making arrangements equal to the best factories, Mr. Tollemache standing foremost in such work—and where the business was properly understood, cheese-making was not drudgery, but pleasant and agreeable employment. He was now making cheese with a small amount of labour, and others might do the same with satisfactory results. The work was over by half-past ten to eleven o'clock in the forenoon, and the party who took the management was at liberty to take an abundance of recreation in the afternoon and evening. He considered that the high price of land, together with heavy taxation, and incidental expenses which were continually augmenting, would not as a rule admit of farmers sending their milk to a factory, when the work could be done with little or no additional expense at home. If they were to deprive a large number of their skilful Cheshire dairymaids of their present employment, it would be a severe infliction, but, besides, farmers were not in a position to keep their wives, and three or four healthy daughters, at home unemployed, nor was it wise or expedient to do so, and if they did, instead of their expenses being diminished, they would be increased. The adoption of cheese factories was not in his opinion the great desideratum of the present time. What they wanted was some dairy college, call it a factory if you please, where different plans of cheese making could be shown, and various experiments tried, with the view of general improvement. They wanted more intelligence and skill brought to bear upon dairying. They should put forth efforts to bring up their sons and daughters to study the art of cheese making, the same as they did other things, and endeavour to disseminate useful knowledge; and if such a course were adopted, it was his firm opinion that a general reformation in cheese making would soon be effected, and that the cheese made in private dairies would, on the average, be far superior to that manufactured in public factories.

The CHAIRMAN asked if any statement had yet been published by the Derby factories?

Mr. COLEMAN said they were not able to give results definitely at present, as a great portion of the cheese was unsold. The quantity of milk which had been received at the Longford factory was 170,867 gallons, and the cost of manufacture into cheese, exclusive of the American manager's salary, £76 7s. 9d. They had to pay the Americans an extremely high price to show them the art of condensing labour, and therefore a guarantee fund of £100 a-year was charged to each factory. At the Derby factory they had received 130,857 gallons of milk, and in the same way the expenses of working had been £87 12s. 5d. When it was ready they would be glad to send a statement as to the cost of manufacture, but it would be hardly fair to test the factory system of cheese making on the results of the first year, as they had had to make many changes, and do their best with a new mode of manufacture.

Major EGERTON LEIGH, referring to what Mr. Aston had said, was sure they would like to know the plan adopted at that gentleman's dairy to enable him to obtain such a high price for his cheese. One of the speakers said that cows were kept too poor, and that was true to some extent; but supposing that a man who farmed well, and another who farmed badly, sent their milk to the factory, the balance of benefit would be in favour of the latter; or, in other words, the man who had before obtained 90s. per cwt. for his cheese and the man who could not obtain more than 50s., would be put upon an equality, and get a price between 90s. and 50s. What they wanted to know was how the best cheese could be made, how cows were to be fed so as to give most milk, and how land was to be manured. As they all knew, the average size of farms in Cheshire was very small, some being only 50 acres, and others less. Many could not keep a horse, and if they sent their milk to the factory they must pay for it, so that in such cases there would be an increase instead of a diminution in the working expenses. In some cases it answered better for a small farmer to make butter or dispose of his milk, but he would also suppose a case where a man with a sickly wife and no one to look after his dairy, would be glad to send his milk to a factory, so that his deficiencies might be made up there. With regard to the whey, he believed that in America a farmer who sent a certain quantity of milk could receive back, if he chose to do

so, a quantity of whey, but he thought that would not be so satisfactory. As to throwing several small farms into one, it might be better for the landlord, but it would not be better for the country. He knew that small farms in Cheshire were of great advantage. You could hardly tell where the labourer ceased and the farmer began, and in consequence of that men had risen by their own exertions, which they could not have done so easily, and perhaps not at all, if they had lived in countries like Lincolnshire and Gloucestershire, where farms were frequently of the extent of a 1,000 acres. The discussion of the subject would do good, but beyond that he did not see that they could go.

Mr. DUTTON said, in regard to the supposed injury a good farmer would sustain, Major Egerton Leigh somewhat overlooked the fact that the advantages were mainly in the quantity of the milk which the cows give, and therefore the man who farmed well would get the benefit of it in the proportion of the milk which he obtained. But they might get good cheese from land in poor condition, and indeed Sir Harry Mainwaring had delighted them by his endeavours to show that as land had improved the cheese had deteriorated—that it was on land undrained and rushy where the best Cheshire cheese was made.

Major EGERTON LEIGH: We may consider that as a sort of poetical license extended to Sir Harry.

Mr. DUTTON was inclined to think there was something in it, and that when land was in a high state of cultivation it required more curd to make cheese of first-class quality. They all knew that the land which Mr. Aston farmed was peculiarly well adapted for good cheese-making. He said that it was astonishing to see the quantities of milk sent to Liverpool, Manchester, and other large towns every day. He believed that at least 20 percent. was not made into cheese, and that unless they could get something near the average price by converting it into cheese he was certain that nearly 50 per cent. of the milk would be sent from the country to the town. This showed that it was better to sell milk even at 6½d. per gallon than to feed beef and mutton. Some of them were not blessed with wives, to say nothing of daughters, and to such it had become a pressing question whether they could pay £30 or £40 for a good dairymaid. He asked Mr. Aston to state what the average price of Cheshire cheese was.

Mr. ASTON said he was inclined to defer in that matter to Mr. Jackson, who put it at about 70s. In the neighbourhood of Tarporley it would be 72s. or 74s. Mr. Jackson had asked him to state the lowest price, and he did, but it did not occur to him at the time that during the foot-and-mouth disease a lot was made which fetched only 65s.

Mr. COLEMAN said, as this question had arisen, he might state that in July they made 450 cheese at Longford factory, and 456 cows had the foot-and-mouth disease.

Mr. J. SLATER said that when the system was under discussion three years ago, he showed that the average price of Cheshire was 7s. or 8s. per cwt. higher than the factory-made cheese. It was not not likely that the Americans would send their rubbish here, because a ton of bad would cost as much as a ton of good in carriage.

Major EGERTON LEIGH: How on earth do they arrive at the proof that Cheshire cheese is worse now than it was forty years ago?

Mr. SLATER said that such statements were incapable of proof. It might suit the Americans, to whom cheese-making was a new thing, to establish factories; but in Cheshire, although he knew some inferior dairies, he knew none which could be called bad; and he thought that what they had heard should stir them up to make better. Sir Harry Mainwaring, who usually made slashing observations, said that the factory system would do very well for those who were too proud or too ignorant. If the factory plan was a better one it might be adopted, but he did not think they could improve good Cheshire. Derbyshire never was considered such a celebrated county as Cheshire; and if they could by the factory system bring that county up to the average of this it would be of great advantage.

Mr. JACKSON (Tattenhall Hall) said he had been almost all his life connected with cheesemaking, having been a Cheshire farmer thirty years and a cheese-factor for twenty years, and he must say that he had great objections at first to changing and adopting the American plan. But, as the Commander-in-Chief had declared recently, he had been "living in a fool's paradise," and he now saw that they must

change, or, if they did not, they would repent it. He stated that the reason he had not answered a letter that Mr. Rigby had written to him was, because he did not wish it to be thought that he was prejudiced. What he did instead of that was to offer to put Mr. Rigby in communication with London cheese-factors, so that he could arrive at the truth himself. Having supported the testimony given by Mr. Rigby to the effect that Cheddar and American had replaced Cheshire cheese, which was not now to be seen in the West End of London, Mr. Jackson proceeded to say that there could be no question that but a small proportion of Cheshire, compared with the quantity sent up there fifty years ago, found its way to London, and he asked whether they were content to be driven out of the market.

Mr. PEDLEY, a cheese-factor, having stated in answer to a question put by Mr. Jackson, that where he used to send fifty tons of Cheshire to London, he did not now send a ton,

Mr. JACKSON went on to say that Mr. Aston's proposal to establish colleges for the education of dairymaids was tantamount to introducing the factory system, as the end aimed at was to regain the position they once occupied in the cheese-market. He called attention to the fact that the milk would be bought by weight, and that they would get 6½d. per 10lbs., but as 10lbs. of milk was not quite a gallon, they would get for it 7d. per gallon within a fraction. But supposing they sold it, he knew a farmer who last year sold his milk, and made thirteen guineas per cow, although he only sent his milk away from the 1st of May to the 26th of November. Last week he tested what the worth of milk was for churning. They churned the cream of 100 gallons of milk, which produced 31lbs. of butter, and if that were sold at 1s. 6d. per lb. it would be equal

to selling the milk at 6½d. per gallon. With respect to the cost of carting the milk to the factory, he did not think it would be so much as 8s. per week, as he contracted with a man to bring him milk for two miles at the rate of 4s. per week, and the same man could bring milk for several farmers, so that the expense of carriage would be minimised. He considered that, as to bringing away the whey it was doubtful whether it was beneficial to pigs, as it increased their consumption of corn or otherwise the pigs were liable to suffer. Speaking of his own factory, it had been exceedingly satisfactory, and he gave an extract from the register which he kept, recording the temperature of the kitchen, the weight of the milk received each day, the temperature at which the rennet was added, the quantity of colour (if used), the time it took to coagulate, the quantity of curd, the quantity of salt, and the time it was vatted. He asked, when everything could be seen at a glance connected with the process, whether it was not more likely that he would obtain a satisfactory result than if he trusted to a single woman who had never seen his dairy before.

Mr. WOOD believed that the difficulty which farmers found in dealing with domestic servants would of itself be sufficient in the end to drive the farmers to adopt the factory system, which, as a practical man, he believed would work well.

Mr. CLEMENT SWETENHAM said the chief question was—Will it pay? He thought that until they were in a position to ascertain the financial results of the factories already established, it was premature to come to any decision.

Some matters of detail were discussed, and ultimately, on the motion of Mr. EDWARDS, the discussion was adjourned, thanks being accorded to Mr. Coleman and Mr. Rigby for the information they had given.

THE FARMERS' CLUB.

THE SUPPLY OF ENGLISH CAVALRY HORSES.

The monthly discussion meeting was held on Monday evening, March 6, at the Club Rooms, Salisbury Square, Mr. J. B. Spearing, chairman for the year, presiding. The question for consideration to be introduced by Mr. E. Tattersall, of Albert Gate, Knightsbridge; was "The supply of English Cavalry Horses."

The CHAIRMAN said: The subject for this evening's discussion is very interesting and important at the present time, and it is about to be introduced by a gentleman whose name, in connection with the horse, is so familiar to us all that we must feel pretty well satisfied that he will handle it in a proper manner. That the breeding of a good stamp of cavalry horses has been much neglected of late years, there can be no doubt; and, if Mr. Tattersall can show how it may be done with advantage and profit, he will, I am sure, be entitled to the best wishes of this club, and of the country generally. Mr. Tattersall is no stranger to this club; for some years ago he read a paper "On the best means, legislative or otherwise, of inducing capital to be more freely invested in land, and the benefits that would result therefrom to all classes." Mr. Tattersall is such a practical man, that I feel that I ought not to detain you with any more remarks of my own, and therefore I will at once introduce him to your notice.

Mr. TATTERSALL then read the following paper:—In introducing to the Farmers' Club a subject of such national importance, you must allow me to take as my text, a letter written at Westward Ho, during my summer holiday, in answer to something I had read on the subject in one of the daily papers:

Among the delusions swept away by the war which is desolating France is that heavy cavalry are better than light. The Uhlan is the most effective cavalry soldier of the day, and his utility and ubiquity are all summed up in the fact, that he is a light man on a light horse, and can travel thirty, forty, or fifty miles a day occasionally, if required a thing impossible for a heavy man on a heavy horse, deficient in blood, and, therefore, in speed and endurance. In an article (in a daily paper) not long since, it was argued that the heavy cavalry would always beat the light in a charge,

man to man. Such a charge in the present state of things could hardly ever occur, and if it did I believe in the light-weight man on a well bred horse, ridden at speed, against the heavier horse and man at a trot. I believe that Wells on Blue Gown or Siderolite, Fordham on See Saw, Johnny Daley on Restitution, Tom French on Kingcraft, Castance on Vespasian, Chaloner on Blair Athol, or Grimshaw on Gladiator, charging at full speed against an equal number of Truman and Hanbury's men on dray horses would have the best of it. I should back the light division! I know of one instance in which a mare of my own, who afterwards beat the Arabs, met a bigger horse at full gallop, knocked him backwards, and jumped over him and his rider. But it is not the province of light horsemen to attack heavier battalions. They are the eyes and ears of the army, and like the ubiquitous Uhlan, ought always to be in front and flank of an army, to give information, to fall back as rapidly as they advanced when required, or when their object is attained, and to charge under certain circumstances. In the last battle before Sedan the French Cuirassiers (heavy cavalry) were almost annihilated in a charge against infantry, and General Sheridan is reported to have said—and he was right—that to use cavalry in such a manner was murder. It seems to be the unanimous opinion that with the present weapons in the hands of the infantry the days of the heavy cavalry are numbered, because every man, or his horse, is certain to be shot if sent point blank against infantry over a range of from 400 to 800 yards. The light horseman, then, is what we require; and the Uhlan is the best type of light cavalry. It strikes me that our mounted volunteers are the most easily made like them, as they would be Uhlans with a knowledge of, and a stake in, the country. Let us at once, also, take the hint, and follow the example in our army! We are very defective in cavalry. I believe we are defective in everything, in spite of Mr. Cardwell's fair words. He is but another instance that "language was given to man to disguise the truth." I get my information from officers of eminence in all branches of the service, and I believe them in preference to any gentleman in office, who is obliged to make out the best case he can. But

especially are we weak in cavalry. What is the remedy? To follow the example of the Prussians as far as he can; but that is not so easy as it looks, and I will tell you why. They have been for more than a quarter of a century manufacturing their light horses, and in this way. For all that period, or longer, they have had agents in this country, who have been buying up in England, Ireland, and Scotland (wherever they could find them), at about £5 per head extra, all the active, useful, short-legged, sound hackney mares—a class now almost extinct in this country, and they have bought the best, and none but the soundest, of our thorough-bred horses, giving from 500 up to 3,000 guineas; and they have crossed these pure bred stallions with the short-legged mares, and the produce are the horses the Uhlans ride! The government *haras* contain thousands of such mares, and hundreds of stallions, and the produce belongs to the government, and is chiefly used for the army—and now we see its use. Under a “penny-wise and pound-foolish” system of management like our own such a result is impossible, and yet it proves very strongly that “To buy in the cheapest and sell in the dearest market” is not the “whole duty of men” who undertake to rule a great country. We have sold our mares in the dearest market, and now we want them have to pay very dearly for them, and then cannot get what we ought to have. And even now the Government do not give enough to secure the best article for the cavalry! The Arabs were wiser in their generation, proving that the wise men *did* come from the east. They would not sell their mares, they sold their horses. We have sold the goose, and now regret the loss of the golden eggs, of which our friends the Prussians are reaping the benefit, by having them to use when they want them. Which is the cheapest plan in the time of need? We ought to have government studs in this country. With the present notions of our rulers, it does not seem probable. But is not the country to blame; and does not the opinion of the country rule our rulers more than they rule the country? We must not blame any individual government, but the system. Then let us rectify the system. It may cost us a little more at first, but will be cheapest in the end. Wars now are over in weeks. To be unprepared is to be beaten. Woe betide the government that allows itself to be caught unprepared. Under such circumstances, a Gladstone might share the fate of a Palikao! What can be done? We have plenty of light-weight men; but in this country, where we have the best horses in the world, we either have not the horses, or the Government will not buy them. If we have not the horses, we must manufacture them; but private individuals will not do so unless it pays. Then it is the duty of the Government to step in and do as Prussia, France, and Austria have done. These countries have purchased their means of manufacturing their cavalry horses from us, and we are now in want of them! This subject is not new to me. I have discussed it with gentlemen of weight and influence. No one takes a stronger interest in the matter than the Right Honourable the Speaker in the House of Commons. No one is more able to give an opinion and advice upon a subject of such national importance, as his high position would command the attention it deserves; and if any step is taken in the matter Parliament would have the benefit of his great experience, and would listen to him with the respect which is his due. It should not be forgotten that this is a work of time. But there never was a better moment to commence than when there are so many valuable thorough-bred mares, foals, and yearlings, thrown upon a market already overdone, and in which the foreigners cannot compete. For all the purposes of light cavalry the thorough-bred horse is the best, and I have seen it mentioned that in the present campaign the horses bred from the Arabs stand hard work better than any others. The English thorough-bred horse is, to use the words of Admiral Rous, “the Arab improved” with more size and power, and therefore more able to carry a soldier. If the Government will not move in the matter, cannot a national society undertake to supply a national want?—Yours truly,

Albert Gale, Sept. 7.

EDMUND TATTERSALL.

This letter appeared in the daily and sporting papers in September, and was almost the commencement of a host of letters on the subject of breeding, &c., which have since appeared in the sporting papers, which have expressed the views of many minds, and have left, perhaps, little that is new to be said upon the subject, and therefore leaves me the harder

task. But I shall have the opportunity of reading to you letters, and giving you information from the highest authorities in Prussia and in Austria, showing you what the enlightened governments of those countries have done, and are doing, and then I think you will come to the conclusion that, as in other things, we Englishmen are not placed in our right position, and therefore lose caste in Europe. As we have upwards of thirty millions of the bravest people in the world, and no efficient army—as we have the finest volunteer force in the world, and it is snubbed and kept down by military jealousy—as we have the best engineers and mechanics, and are short of guns and short of powder, as in all other things with us unready Saxons, so it is with our cavalry. We have the best breed of horses in the world, sought after by all other countries, and yet our cavalry are badly mounted, and are not what they ought to be. And for all this who is to blame? Why the people at large—you amongst the rest, who ought to speak out, through your Members in Parliament and through the Press, and let those know who pretend to manage our affairs, that above all things we will have an effective army, ample guns, artillery of the best, with horses of the best class to draw them, without which they are useless; and cavalry horses of the highest class to mount our cavalry upon, with ample reserves, which in cavalry is most important; for, though you may buy horses in haste for draught horses, you cannot make a horse a broke charger under a year or two, any more than you can a good cavalry soldier to ride him. Let us then have no more cheese-paring Chancellors of the Exchequer; they do not pay in the long run any more than other cheap articles. Let us have the best horses at any cost; it is the cheapest in the end, and all the money is spent among the farmers and breeders, who pay the Queen's Taxes. At the present moment, under sudden pressure, we require a much larger number of cavalry and artillery horses than usual. As the late Lord Herbert said, we are always vibrating between parsimony and panic. Just now we are somewhat in the latter stage—in other words we are not prepared. We want 4,000 horses; 2,000 of them for the artillery, for which £40 each will be given. These they may get, but there will be much difficulty in getting the other 2,000 for the cavalry, such as they ought to be, to carry heavy weights long distances, and without that they are useless for work or war, and not fit for much in time of peace, and when you have got them they will take from one to two years to make. About 30,000 horses have gone from England to France during the war. At the time our Government were hesitating about giving £40 each for 2,000 artillery horses, Gambetta sent an order to give from £45 to £50 for 2,000, and this, I suppose, decided our authorities to give £40: so that we may thank Gambetta for getting us a better article. In the Crimean War £40 was given; since then the price came down to £30 for three-year-olds, and £35 for four-year-olds. Then no four-year-olds were bought for a time, unless they could be got at about the same price. Farmers and breeders would sell useful lean three-year-olds, early in the year, at £30, but would not keep them till four at anything like the same price, as they found useful horses worth £40 or more. Then the Prussians and Austrians came into the market, and bought up all the useful, quick, active riding mares at from £35 to £40 or £45 each. In seven years, from the two ports of Hull and Harwich alone, about 14,000 mares were sent off. These were the mares which we ought to have retained to breed from. They are the very things we now want. If one-half only had remained to become brood mares, we ought to have had at least 5,000 horses per annum from them, and they would most of them have remained in the country, had the price given for our troop-horses been £5 higher; therefore you are suffering from the effect of buying a low-priced and inferior article. Most of the light troopers of late years have been purchased in Ireland at about £30. The price given has not been enough to induce breeders to breed and keep good animals for the purpose of the army, more especially as the demand has been small and intermitting, instead of remunerative and continuous. The mares are gone and it will take years to replace them. The price of horses, like everything else, is higher in England than elsewhere, and are not likely to be cheaper but dearer. Upwards of 60,000 were eaten in Paris. How many were used up and eaten during the war it is impossible to tell; but it must leave a very large demand for them as soon as things settle down again after peace is established. To supply our army properly is

question of money, and of money consistently and regularly laid out, not by fits and starts, which sends the trade into other channels. As our farmers and breeders can grow cattle and sheep to almost any size and shape, and to the greatest perfection, so can they grow horses of any stamp; but they must be grown to pay, or they will not be grown by men who have to get their living by their business. The sort of animal we really want to carry troopers is the short-legged active hunter, not the Leicestershire horse, but the horse for the shires and close counties. This horse, good of his kind, is worth 50 or 60 guineas in a fair at four years old, and many of them 100 or more. How can they be got for troopers for 30 at three years or 40 at four years, except the inferior animals which the dealer will not buy? Such a horse as I have described at five or six years old ought to be able to carry 16 stone from London to Brighton, 50 miles in the day, and back the next. I would not keep a horse to ride that could not do it. My horse carried me upwards of 50 miles with the Queen's hounds and home again, besides 40 miles in the train, on Tuesday, the 21st of February, and was quite fresh the next day. But then he is worth 130 guineas. A friend of mine often rides down to Brighton in a day, on small horses, uses them there, hunts, &c., and rides back to London the next day. But where would you find a trooper's horse to do it? or how many out of 100 would get to Brighton and back in two days? If they cannot do this they are not efficient, and therefore valueless in an emergency. As far as I can ascertain we have not more than 10,000 cavalry, and these only on paper. What the real number of horses fit to carry men and trained to their work I have no means of knowing; but as we want 4,000 this year, or much more than one-third of the whole amount, it looks as if the parimonious fit had been a long one this time, and therefore now requires a large sudden outlay. In Prussia and Austria the calculation is about 10 per cent. annually, so that we ought really to want 1,000; as we want 4,000, it is 40 per cent. in lieu of 10, and this is what they call economy. In Austria and Prussia they have all they want and reserves. They are ready, we are not, which is the best and cheapest in the end. I will tell you, gentlemen, what they do in Austria, and I get my information from an officer of cavalry, who was for a great many years in the Austrian service, and one of the best judges of horses met with, and who was constantly employed in the purchase of horses for the cavalry in Austria, and of horses, stallions, and mares, thorough-bred, obtained from this country for the Austrian Government, and who has attended many of your agricultural shows. The Colonel tells me that they have about 4,000 stallions, covering gratis, or at a mere nominal fee, for the Government. They have no prior claim on the produce. The remount department purchase as any one else in the open market, at about the following prices: Heavy cavalry and heavy artillery, £32; light cavalry, £25; pack horses £15. I believe they buy not under four or five years old. In 1854 he purchased in one district for the remount 1,500 horses in about four weeks at these prices, and good useful horses, which were all passed by the officers appointed, who are very particular. There are several public breeding studs. The stud at Kisbeer was established by the present Emperor, and is entirely of English blood. For this stud were bought *Buccaneer* for 3,000 guineas, *Ostregor* I sold for 3,000 guineas, *Teddington* (Derby winner) 1,400 guineas, *Daniel O'Rourke* (Derby winner) 800 guineas, *Sabreur*, *Codrington*, *Oakball* and others of a high class of thorough-bred horse, amounting to from 20 to 25 in number, all bought since 1860. Forty thorough-bred mares were purchased for the stud at 200 guineas average at the late Sir *Tatton Sykes'* sale alone, and many others, partly thorough-bred and partly half-bred mares, amounting to between 300 and 400. The Colonel purchased in two or three years about 150 mares, the best of the old Irish blood, for Austria. He would not buy half-bred English mares, however good looking, for this stud, because he could not depend on their back blood, and was afraid of their throwing back to the cart or under-bred horse, and so being soft and slow, and therefore bad. From this stud, commencing with the best stallions from England, are bred the stallions which are sent into country to breed from. So that Austria and Hungary deserve to have, and have, good horses. Another stud at *Babolua* consists entirely of thoroughbred Arabs. The young stallions from this stud are also free to the breeders. Another stud at *Mezyhagyes* is of a large breed of horses, Old Neapolitan, and others, chiefly greys, and adapted for

carriage-horses and heavy artillery. These are also free, and are independent of the private studs, the property of the Emperor, for whom I purchased *Challenge* for 2,000 guineas some years since, to win one particular race in Hungary, which he won, beating *Rama* and others. There is also a stud at *Radantz*. In this the horses run wild, and have a range of country of between 15 and 20 square miles. The other studs have from 20 to 60 square miles, I believe. All the above information I have to thank the Colonel for, and no officer had a larger experience or better judgment. Now that the national studs are taken out of the hands of the military and placed under the management of civilians, he has retired from the service and lives in England. My friend Mr. *Cavaliero*, of Vienna, the *Weatherby* of Austria, has also been kind enough to write me a long letter on the subject, as follows:

Vienna, Feb. 5th, 1871.

I received your letter this morning, and hasten to reply to your questions to the best of my knowledge and ability. The brief information I have given you is based on facts; you may, therefore, boldly cite it at any public assembly. Of late a great deal has been written about English cavalry horses; about the Prussian cavalry feats in the present French war; about the excellencies of the Arab, &c., &c.; but I fancy, after all, that not alone Englishmen, but the whole world will admit, and all arrive at one conclusion, that there is no cavalry equal to the British; no breed of horse like your own. At *Willesden Paddocks* there lately stood fifty entire-horses from Normandy, from the stud of *Mons. de la Ville*, transported thither to be out of the reach of the Prussian marauder; no English breeder thought it worth his while to drive the five miles to see the world-renowned brutes—and if fifty Arabs had been standing at the same place, I doubt if there would have been any visitor put in appearance. This circumstance convinces me at once that Englishmen are satisfied with their own, whatever they may write. The Prussian-bred horses are better looking than the Austrian; the latter, however, are far superior for their adroitness of movement, their strength, and for their endurance; but in my humble opinion far inferior to the English. For God's sake admit of no Arabs to come to your studs. These animals are all very well, and good in their own countries, but when removed they degenerate and sicken; they can instil no quality so good as that you are able to derive from your own stock horses. Send me over a dozen of your farmers to this country, deprive them of their hunters, put them twelve months on German food, and then ask them if their skins fit them as well as they did before they left home. "A Quiet and Easy Observer" writes, in the *Sporting Gazette*, 28th January, 1871, an article, "The Present Condition of the Turf," which I have translated for the *Sporsblatt*, my next number. A Quiet and Easy Observer's remarks do not hold out, and I cannot agree with him when he asserts, because you have been licked several times by the French and German horses, that your race or breed of horses is deteriorated, when at the same time the would-be foreign animals, which have proved themselves superior in a certain year or on a certain day, are taken from your own nurseries, and furnished from your own reservoirs with nurses, both wet and dry. "Easy Observer" asks if this defeat by foreign horses was only an accidental and isolated fact, or was it the sure forerunner of general superiority? I will offer no opinion for the present; but as long as I see the produce of English mares and English sires managed, from their most immature age, by Englishmen, I cannot admit of these animals claiming a foreign extraction, nor of the deterioration of the English breed of horses. That horse-breeding and the management of horses has of late years vastly improved on the continent no one can deny, but I cannot understand how one can call the colt by *Buccaneer*, out of *Lady Elizabeth* by *Trumpeter*, trained by Mr. *Hayhoe*, jun., of *Newmarket*, ridden by *Madden* of *Middleham*, a German? The English Turf, and all connected with it, will bear no comparison with institutions of the same nature on the continent, except that all countries admit the same creed, and follow up the same principle and system of breeding; so that, according to "A Quiet and Easy Observer," we are all acting on the rotten system, and giving the most damning evidence of the increasing degeneracy of our horses. Horse-racing on the continent is an amusement, like many others; people buy flowers and sell lemonade. In Great Britain it is one of her greatest and most important trades; and, notwithstanding the

many spurious articles introduced in this business, it would be detrimental to the commerce of England to endeavour to check the progress of this Trade of trades by introducing and establishing into any of its branches any pedantical reform. We ought to have sense enough to distinguish the legitimate from the illegitimate part of the trade, and, as we avoid drinking bad port-wine when genuine beverage is within our reach, so it is left to our option to grasp at, or avoid, taking part in the polluted division. But enough for to-day. And now in reply to your questions :

1. The Austrian government keeps no establishment for breeding cavalry horses ; her wants for the army are furnished by private breeders and dealers.

2. To further and facilitate horse-breeding, government entertains about 4,000 entire-horses, which are distributed throughout the country, and cover at a low tax. The stallions are partly half-bred English—English Oriental—the lesser part home-bred ; but very few thoroughbreds of any race.

3. Answered in No. 1.

4. When an urgent demand for military horses is called for, cavalry officers are appointed to secure the number of troopers required, which they obtain from dealers and contractors.

5. Answered in No. 2.

6. In time of peace, admitting a stand of 35,000 horses, the annual remounting may be calculated at 10 per cent.

7. Remounts under five years old are not admitted. Maximum price £30 sterling.

8. About thirteen stone

I shall feel most happy in providing you with any information you may require from this country.

Mr. Cavaliero has at different times purchased a large number of mares ; some on account of the Government, which have been resold again in Austria and Hungary, where funds are provided for the purchases, to which the Government contributes, and the mares are purchased here, and resold on their arrival out to the highest bidders, very often realising a good profit. These are all thoroughbred mares, which are thus distributed over the country. Certain societies, aided by the Government in the first instance, making the purchases which a private individual could not well do. All this shows the great value placed upon the thoroughbred English horse in Austria.

PRUSSIAN CAVALRY.—I am very much indebted to Count Lehdorff, Aidecamp, and Master of the Horse to the Emperor of Germany, who took the trouble to answer my questions although actively engaged at the time in the war, and whose letter I give almost entire, as every word is to the point. I hope soon to have the pleasure of thanking him in person, for he intends to be here to buy as soon as he can possibly leave. He is an admirable judge, and knows more about our thoroughbred horses than almost any Englishman I know, and he knows all their pedigrees and performances, and where to go and find them :

With great pleasure I will answer your questions.

1. In Prussia 1,440, in Saxony and Mecklenburg about 160, makes for the whole north of Germany 1,600 stallions.

2. About 150 cart-horses for some mountainous countries, 150 thorough-breds, the rest half-breds of all classes, from coach-horses to the high-bred cocktail.

3. The Prussian Government keeps three breeding studs, with altogether 600 high-bred mares, 50 of them thorough-breds.

4. No horses bred by the government are taken for the army ; all the young stock not likely to make good country stallions are sold by public sale at four years old. All horses for the army are bought from private breeders as three-year-old, at an average price of 22½ guineas, and kept then in different depots till four years old, at about 8 guineas expenses for each ; consequently they cost the government, till the moment they are delivered to the different regiments, 30 guineas a-piece. Four committees, consisting of three officers and one veterinary surgeon each, are buying these horses during the summer throughout the whole kingdom, but particularly in East Prussia (east side of the Weichsel, or Vistula).

5. Yes ; at prices from 6s. to 15s. the mare.

6. For cavalry, artillery, and the train, for the whole of North Germany about 5,500 a year.

7. At four-and-a-half years old ; but they are not wanted to do the service like old horses earlier than six years old.

8. The French make a great mistake in calling all our cavalry

Uhlans, we only mean Lancers by this expression. The weight our cavalry horses have to carry, viz., rider, saddle, arms, etc., *Cuirassiers* (rider 75 kilos.) total about 141 kilos. ; *Uhlans* (the rider 72 kilos.) total 128 kilos. ; *Dragoons* and *Hussars* (rider about 68 kilos.) total about 119 kilos. Thus, the English weight of the *Cuirassier* is in all rather over 22 st., of the *Uhlans* 20 st., and of the *Draagoon* close upon 19 st.

9. Only horses with a *certain amount of blood* are bought for the army, particularly for cavalry, common bred ones cannot go fast enough carrying those heavy weights.

I fancy that the strong point in our breeding good cavalry horses lies in our well and constantly bred half-bred stallions, bred for about fifteen or twenty generations in the government studs, always with the same intention and on the same principles. Private breeding studs are always too often changing their intentions and principles, even oftener perhaps than their owners, and I think General Fleury made one of his greatest mistakes when he broke up the Government's breeding establishment at Haras-du-Pin.

I have also been honoured by the following copy of a report sent last year by Lord A. Loftus, from Prussia, on the purchase of brood mares, &c., in England, sent me by the Right Honourable the Speaker of the House of Commons.

REPORT ON THE PURCHASE OF BROOD MARES IN ENGLAND.—“Although the Direction of the Royal Stud have not in that capacity directly purchased brood mares from England for many years, but have rather confined themselves to the purchase of thorough-bred stallions for the principal Haras of Trachmen, Graditz, and Neustadt, as well as of half-bred stallions (Clevelands, Norfolk trotters, and roadsters, and Suffolk cart and draught horses), nevertheless they have indirectly supported a Society, which met last year in Hamburg, for the purpose of buying English thorough-breds, and Normandy half-bred mares in England and France. And accordingly Count George Lehdorff, the Master of the Horse, at the cost of the Government, in conjunction with the Brunswick Master of the Horse, Von Gersenvall, undertook to carry out these precautions. These purchases amounted in the year 1869 to forty thorough-bred mares from the best English studs. The mares, some of which had foals, were sold here to the highest bidders, and the prices obtained for them fully covered the expenses. The Direction of the Royal stud also took part in this auction, and competed for mares. It is expected that similar purchases will be renewed on the part of the same Society, and that the same Commission will purchase mares this year also. But the direction of the Royal Stud will not make purchases this year of thorough-bred mares, as the breeding of thorough-breds is only carried on in one Hara (Graditz). The object of the principal breeding establishments being to provide brood mares for the principal Haras, and as there is a much greater want throughout the country, and amongst the large and small proprietors for broad strong-boned, thickset, half-bred stallions, with good action, than for thorough-bred stallions, which, especially in the western provinces, cannot be disposed of. With respect to the general condition of horse-breeding in Northern Germany, the production of the article in the best horse-breeding districts, is principally in the hands of small breeders. The State has in every Prussian Province a so-called breeding establishment (*Langestüte*), which consists of from 80 to 300 stallions. At the commencement of the covering season these stallions are distributed over the whole Province, and cover, at their different stations, for a small payment of from two to four thalers, the mares, which are sent to them, of both the large and small proprietors. These stallions are in part reared in the principal breeding establishments. Trachchen contains 300, Graditz 200, Neustadt 100 brood mares. But the produce of the Royal breeding establishment does not half suffice for the wants of the provincial Haras, and from sixty to eighty stallions belonging to private owners always remain there. Should the home and the foreign market hesitate to purchase, we have to thank this arrangement, that the export of horses to the South, to France, and to England is not unimportant, and the Government at any rate are enabled to cover by native produce the demand for horses for the army. In the year 1866, with the exception of 600 horses, which were bought from dealers in England, all the horses required for the army by the increased

demand were obtained within the country. The Province of Prussia alone, decidedly the richest in the production of horses, supplies the army alone with 3,000 horses per annum." No one takes more interest in the subject of improving and keeping up the supply of the breed of our horses than the Right Honourable E. Denison, the Speaker, who has done me the favour to discuss the subject at different times, and sent me this report to make use of on the present occasion, and gave me his sanction to say that he had sent it me to show his interest in the subject. I shall presently give what I believe are his views as to what can best be done—that is, supposing that the Government will take no active part in the matter; but, as usual, leave this a national matter to be carried out by the talent and energy of private breeders. I have now shown you from the highest authority what Austria and Prussia, two of the greatest military nations of Europe, think it necessary to do, in order to provide themselves with horses fit for their cavalry. The Emperor Napoleon also did all he could to encourage the breed of horses in France, and above all did all in his power to encourage racing and the breeding of thoroughbred stock; with what success the annals of our Turf during the last few years bear witness. It will be long before France finds another ruler who will do as much for her breed of horses, all the best strains being English blood imported into France during his reign. He understood and appreciated England, and did more to cement the union of the two countries, by associating them in their sports, and particularly in racing, than all the Republicans will do in a century; but that reign will not, I think, be long, and the princes of the House of Orleans are thorough sportsmen, as we Englishmen know well who have met them in the hunting field. But in the Emperor we lost a good friend, and whoever the ruler of France may be, will, I hope, follow in his footsteps, as far as the national sports are concerned, and the national sports and amusements have much to do with the national character. Should we be what we are without foxhunting and racing? Most decidedly not. These two have made us a nation of horsemen, and it is with shame and sorrow that I have come to this conclusion that we have allowed other nations to set us an example of how to breed horses for the national uses. Still, with all our short comings, from want of a system alone, I believe as much as I ever did that there are no horses like our own English horses, just as I believe there are no men like Englishmen; no women like Englishwomen; no farmers like English farmers. But as in our army, so especially in our cavalry horses, having discovered our weakness, let us set about finding out the best way of repairing our errors, and recovering our lost ground. There is no doubt that this is a national question. In my mind there is no doubt that the Government ought to take it up. I do not believe they will. If they do I shall be agreeably surprised. But, supposing they do not. What then? Well, gentlemen, we have fortunately still left in this country what they have not in many countries, a large number of noblemen and gentlemen with large landed estates, and most of them all the right sort, with the innate love of sporting. The great bulk of them are fox-hunters at heart. A few have degenerated and become poulterers on an extensive scale; but they are a very small minority. Then we have a race which no other country has; the very backbone of England, many of whom I see here before me, the gentleman farmer, always a sportsman at heart, who with ample capital, and intelligent views, combines business with pleasure, and is naturally a breeder of horses, either to ride or sell. These two classes uniting as they do in every agricultural district, carry great weight, and set the fashion and more, perhaps, in the breeding of horses than anything else. Noblemen and gentlemen do, and may do much; but it is through the medium of the local agricultural societies that I see the means of improving our breed of horses. If the Government will not assist, as perhaps they might in offering prizes of £50 or £100 for the best stallion in each district which have served mares a season at not more than £2, then the Government must make up their minds to pay £40 for good three-year-olds, and £50 at least for four-year-olds—and then will not get the best. If the local societies will take the matter up much may be done by degrees, but not at once. It takes years to get up a good breed of horses, especially when you have let the mares go. It must be done through the stallions—and there are plenty of well-bred horses, if well-selected, and if you make it worth their while to cover at a

low price. Perhaps if the London Farmers' Club set the example, and offered a good prize to the best stallion shown at the R.A.S. shows at Islington, and who had fulfilled certain conditions, it might also give a spur to local societies; and a strong deputation on the subject to the Master of the Horse, Lord Ailesbury, might be of use—he understands the subject. It will not be of much use to go to the Chancellor of the Exchequer, as he contemplated putting a tax on every brood mare in the country, which certainly looks like an Irish way of encouraging the breed of horses. He had better tax every brood mare going out of it, but then the Free-traders would be up in arms. Free-trade carried to excess in some things is quite as bad as Protection. Recent events have taught us with the stern logic of facts as startling as the world ever saw that in believing in the doctrine of Universal Peace we have been living in a Fool's Paradise. The Millennium has not yet come—the lion has not lain down with the lamb—and when he does, as the Yankee said, "the lamb, I guess, will be inside the lion!" We must be like the strong man armed, especially in cavalry and artillery, and then once more we shall be feared and respected by our neighbours, and the "Civis Romanus Sum" of Lord Palmerston will be no idle boast when once more it is understood that the same meaning is conveyed in the words—"I AM AN ENGLISHMAN!"

Mr. E. B. ACTON (Bagshot) had not, unfortunately, the pleasure of hearing Mr. Tattersall's opening address, but he had no doubt he exercised his usual abilities in the matter. He happened to live on the road between Aldershot and Hounslow, Windsor, Hampton Court, and Woolwich and saw vast quantities every year of artillery and cavalry, both heavy and light, and he made the remark to an old retired stage-coachman, that he never saw finer horses, as machines, but equally serviceable as hunters and hacks, or for the Brighton fast coach, driven by his friend Mr. Chandos Pole, a Derbyshire Squire. In the *Field* and other newspapers of the same kind there had been a great deal of discussion on that important question; and, he believed, that in the event of war breaking out suddenly between this country and some other country, it would be found that there was here a great want of horses, especially for the cavalry and the artillery. From a statement in the *Field* with regard to the remount of horses in Ireland for the artillery, the light cavalry, and the heavy cavalry, he learnt that the price paid was from £36 to £40, and that a remount must be sound, stand 15 h. 2 in., and from 4 to 5 years old. The horses were, it was stated, mostly bought rough at the fairs, and it needed an experienced eye to judge of their merits. They required great care, were sick at first, and were bad feeders, being used to rough pasturage; and remounts were seldom fit for hard work until 2 years after they were bought, and were generally used to carry a spare set of harness. The forage cost £2 per month, so that by 6 years old a horse would have cost the country about £90. Mr. Acton was proceeding to read, at length, from some work, when

Mr. JAMES HOWARD, M.P., objected to such a course as not being consistent with the object of the Club meetings, namely, discussion; and this objection being supported by the chairman, Mr. Acton resumed his seat.

Mr. F. SHERRBORN (Bedfont) said Mr. Tattersall had given them some very interesting information with regard to the manner in which foreign countries raised horses for their armies; but they required a good deal more in the way of detail as regarded expense to enable them to form a judgment as to the comparative advantages of the foreign system and their own (Hear, hear). It had struck him the cost of keeping such a number of entire horses must be very great (Hear, hear). He could not keep in his memory the exact prices at which horses were sold abroad, but it appeared to him, as he listened, that they were not such as we should consider remunerative, and he felt that he should be sorry to breed horses to be sold for such sums, and it must be borne in mind we should have to contribute to the maintenance of these studs through the taxes. He did not believe they would have any difficulty in remounting their artillery and cavalry (Hear, hear). There was no lack of horses in this country (Hear, hear). Although they had sold many of their best animals, and especially the mares, there were, in his opinion, a sufficient number still left for their own purposes. He did not think the best horses for army purposes were bred from thorough-bred mares; on the

contrary he thought the best breed was obtained from thoroughbred horses and half-bred mares (Hear, hear).

Mr. S. SIDNEY thought he might venture to say a few words on that interesting subject. No person could be better qualified than Mr. Tattersall was to dilate upon it. Mr. Tattersall had had great experience, but he (Mr. Sidney) had had a little experience, having been fond of horses, and having owned horses nearly all his life, and having been for eight years the manager of the Islington Horse Show, also the greatest horse-show in the world, he had been brought a good deal in contact with breeders and owners of horses. The information obtained by Mr. Tattersall from original sources must no doubt be of great advantage in the consideration of that question; but having followed the reading of his paper very attentively, he did not quite understand at what conclusions he arrived. As regarded Mr. Tattersall's remarks on the management of their cavalry, there could not be the slightest doubt that their cavalry was exceedingly weak, and that it always had been weak since the termination of the Peninsular War, for reasons which it was easy to understand. The man who took in hand the English cavalry at the end of that war was the Prince Regent, whose opinion was that the least wrinkle in a military coat was a disgrace, that was to say, he wished coats and breeches to be so made that no man could possibly do any work in them (laughter). Since the Peninsular War their cavalry had not been a practical thing: it has been a force which young gentlemen entered either because they were persons of high social position, or because they wished to attain social importance. The cavalry has for many years been rather an amusement than a profession, and now that it was about to become a profession it would be found rather difficult to provide what was required for it. The English Government was an economical one, and it would become, in relation to this matter, exactly what the people made it (Hear, hear). England was not in the same position as Austria or Prussia, or as in that which France was until lately; but the people had only to tell the Government to be liberal, and they might depend upon it they would not be unwilling to spend their money (Hear, hear). The price of horses was higher in England than any other country, because everything else was dearer (Hear, hear). There was a time when very large tracts of pasture land were used for the rearing of horses. Such land was then let at a very low rent indeed; and in Yorkshire and some other counties persons raised horses which went on their four legs to market, and were sold at a reasonable price. But as agriculture improved, bullocks and sheep had in those districts taken the place of horses, or as he had heard a London jobmaster remark, the sheep had eaten up the horses. He did not believe anything was more unprofitable at present than the rearing of horses (Hear, hear). Why, then, were they reared? Because two other influences came into play, pride and pleasure. It was, and he hoped it would long continue to be, the ambition of every Englishman who succeeded in life, either to be a gentleman himself, or to make his son one, and no man, it was thought, could be a gentleman in England if he did not own or love a horse, or were not proud of having some connection with horses (laughter). No doubt the object to which Mr. Tattersall pointed was a most desirable one, but the practical and straightforward course to pursue for its attainment was to pay a good price for cavalry horses, and then they could easily remount the men. Happily this country possessed what Austria and Prussia did not possess, a large class of country gentlemen and farmers, who were proud of doing for their own profit or pleasure that which foreign Governments were compelled to do because they had no such advantages in private life. The effect of the Government setting up a stud, would be that it would come into direct competition with every private individual who bred a horse. If the Government set up a stud in any district, and were successful, the result would be that the man who had one brood of mares, or ten broods mares, would retire from the field. What would be the use of his spending his money to raise animals which would be brought into direct competition with the animals of the Government? He believed that the Government could obtain all the horses they required, if Parliament would only supply the money. The other day they offered to buy 500 horses belonging to the London General Omnibus Company at £50 each, but the company could not spare them. He did not believe there was any danger of an immediate invasion, but discussions of that kind would tend to fortify the Government

as regarded the question of price, and enable them to obtain good animals, bad ones being dear at any price (Hear, hear). He knew a little about prizes, and he believed the company which he had the honour to represent gave a larger prize for well-bred horses than any horse show in the kingdom. He was afraid that in what he was about to say he would be going against the prejudices of his friends the farmers, but he believed that prizes for horses were of no use whatever, except to encourage exhibitors to bring horses to a show, and affording opportunities for selling. If a prize were offered for a pig, a man who bred pigs and was a good judge of a boar and a sow knew that whether he obtained a prize or not he could sell his pig to make bacon. In like manner a man who bred sheep, and sent them to a show, looked not merely to the animal exhibited, but to the profit which might be derived from the flock to which it belonged, in consequence of its success. So also it was with Shorthorns. Prizes were very good things in the case of pure-bred cattle, they had been the means of educating the public and teaching them to find out good points in a bull or cow. But would anyone persuade him that when a man had one or two mares that he was going to put to the stallion he, thought of what might happen at a horse show in three or four years? When a colt was two or three years old perhaps the owner began to think of winning a prize, and to prepare him for a show. He (Mr. Sidney) contended that the Government would waste the money of the country by offering prizes for stallions as much as they did now by giving Queen's Plates at races. The Royal Agricultural Society was once induced to offer an annual prize of £100 for thorough-bred stallions. What was the result? It led to the exhibition of stallions so valuable that no ordinary breeder could afford to use them. It was, in fact, like showing people very fine wine and telling them to smell it (laughter). Once by a fluke, there being no competition, the £100 prize was won by Motley, the only horse of the Royal Agricultural £100 prize stallions that served mares and got hunters at a fee farmers could afford. In conclusion, he would venture to make a practical suggestion for improving the breed of English horses. Let Agricultural Societies, under the patronage of, and affiliated if possible to the Royal Agricultural Society, collect subscriptions, and raise funds for hiring every year a thorough-bred stallion which could be let out in the district at such fees as £2 2s. and £3 3s. That might have a real effect; but to offer £100 prize for a stallion whose fee was 20 or 30 guineas would do no more good to the breed of horses than presenting an agricultural labourer with a pair of breeches for 20 years' faithful service to the breed of labourers.

Mr. H. CORBET said Mr. Sidney, the Manager of the Horse Show at Islington, had just told them that giving prizes for horses was an absurdity. He (Mr. Corbet) must confess that in the face of that fact he hardly knew in what light to regard the Islington Show, which gave prizes not only for hunters and hacks but also for thorough-bred stallions (laughter). He had seen a prize at Islington won by a famous horse, which when he went back to the country was let at something more than two or three guineas a mare. If the prize system were absurd anywhere, he was afraid it was so at Islington, but he did not think it was absurd; on the contrary, to repeat a remark of Mr. Sidney himself, he thought the system of giving prizes was a system of teaching people what kind of animals were the best. He had had the honour of acting as a judge at horse shows in most of the counties of England: he felt very proud of that fact (Hear, hear), and he believed that prizes had been the means of introducing thorough-bred horses to many districts where they were not to be found before. Thirty or forty years ago, before the Royal Agricultural Society and the Islington Show were instituted, many people hardly knew how to set about breeding horses. They studied the breed of Shorthorns, and the breed of Southdowns, but they cared little about the breed of a horse. This state of things was now greatly improved, and he attributed the improvement in a certain degree to the influence of prizes. He quite agreed with Mr. Sherborn, that there were good horses in the country; but they had not enough of them. How were they to get enough? Mr. Tattersall hinted, rather than said, "Have companies." He (Mr. Corbet) did not believe in companies for such a purpose (Hear, hear). There had been companies for the breeding of race horses, and the result was not satisfactory, as it would be still less so as a means for obtaining half-bred stock.

Further, if the Government were inclined to keep studs, was it to be supposed that the House of Commons would ever consent to pay the expense—so many thousands a-year for this stud and so many thousands more for that? Why there were so many political economists in this country—even Salisbury Square abounded with them (laughter)—that it was not likely that a Chancellor of the Exchequer could induce Parliament to provide for such an outlay. Seeing, however, that the Government gave so many thousands a-year for Queen's Plates, which were often absolutely useless, he would like to see them try the experiment of giving a few hundreds in prizes for thorough-bred horses. There was but one horse in the world that could improve the breed of horses, and that was the thorough-bred horse (cheers). He believed that if the Government were to select ten of the best breeding districts in the country, and give a prize in each for thorough-bred horses to serve at three or four guineas, they would in that way introduce better horses, and at the same time put the public mind in the right direction. He could not sit there, after having visited as many shows, perhaps, as any man in that room, and hear the prize system run down, without expressing his belief that it did a great deal of good in every way, as he was quite sure that it did an immense amount of good with regard to the breeding of horses.

Mr. G. SMYTHIES (Marlow Lodge, Leintwardine) said no one had yet risen to represent the breeders of horses, and he had hoped that some one would speak who came from Yorkshire and Lincolnshire, or some other county, where special attention was paid to that matter. In Shropshire, Herefordshire, and some other counties the breeding of horses had fallen off very much of late years because the breeding of cattle and sheep had been found more profitable (Hear, hear). It was entirely a question of price. Beef and mutton had got dearer, and there were more people to buy harness horses and hunters, and consequently the Government must do as the rest of the world had done—that is, give more money for such horses as were necessary. That course would prove the cheapest in the end. He quite agreed with previous speakers that if the Government would go into the open market and give a fair price for the article it wanted that article would be supplied. He did not know much about cavalry horses: he occasionally met in London a troop of black horses which were as great brutes as he ever saw in his life (laughter). If he had to go to market with such creatures as those he was sure every dealer would turn up his nose and ask him why he had brought such animals there (laughter). He understood our Government that the Indian Government had lately determined to give £70 for their horses. It was impossible for them to get a useful horse for £35. [A Member: "They give £40"]. A useful animal was not to be bought for £40 (Hear, hear). Mr. Tattersall had mentioned the kind of mares which were sent out of this country to Austria and other countries on the continent. He (Mr. Smythies) was sure that if that style of mare were put to a horse in this country of the same value as those sent abroad, they would not like to take £40 for what was so produced, unless indeed some accident or misfortune had happened to it. The breeding of horses was in this country a very expensive operation, and it would not be worth the while of farmers to engage in it with such horses as he referred to unless they could obtain a price of from one to two hundred guineas. If they put a cart-horse to a mare of the best kind the result would be a slow machiner which would be useless for cavalry purposes; and, on the other hand, they could not afford to breed a good class of horse for such a price as the Government paid at present.

Mr. L. A. COUSSMAKER (Westwood, Guildford) said he had bred a good many horses in his time, and he knew it was not a profitable occupation. He had bred horses from old favourites; he had bred thorough-breds, half-breds, and cart horses, always getting the best stallions that he could, and he believed that cart-horses had of late years proved most profitable. The lowest amount for which they could keep a colt was £10 a-year; adding the cost of keeping the mare and the cost of the leap, the total outlay could not be less than £50. How, then, could it pay to sell to the Government at £40 or £45? There must be some margin for casualties, and if they obtained many good animals they would also have some which would only be fit for their own use. At present it was very difficult to buy a horse that would suit you; but to sell one

that you had bred at a fair price was utterly impossible. When he had a horse for sale he had to keep him for weeks and weeks, and he went on eating his head off. With the price now paid for the breeding of horses it would not at all answer to breed them in the county of Surrey.

Mr. H. TRETHEWY (Silsoe Ampthill) said the breeding of horses seemed to him just the same in principle as the breeding of any other agricultural stock. Farmers wanted to breed something that would pay. There were certain districts of England where horses could be produced at less cost than in other districts. Some districts were favourable to the production of cattle, and others again for that of sheep; but whatever the animal might be, it would not be produced unless it paid. Mr. Tattersall, in his very able paper, told them that if they produced beef and mutton because they were wanted, they could raise horses also if a sufficient price were paid for them. Unless such a price were paid the Government would never be able to mount cavalry with English horses; but English horses they must have. Proper remunerative prices must be paid for them, and they would be found. Let them look back and observe the difference which there was in that respect between thirty or forty years ago and the present time. The demand for horses was much less then than it is now. For one man who used to mount thirty or forty years ago, twenty or thirty did so now; for one man who drove a gig at the former period, ten men did so now. The demand for horses had greatly increased, and consequently prices had risen. The best quality of horses had always fetched a high price, and so long as there was a great demand for horses of second and third-rate quality, the price for them must also be high. It was folly to talk of buying a useful horse for £30; no man could breed a horse for that. Mr. Coussmaker had just remarked that you could not keep a colt for less than £10 a-year. He (Mr. Trethewy) would put the cost higher, but at all events you could not breed a nag-horse up to four years old for less than between £40 and £50. The man who bred a cart-horse ought to set him to work when he was two years old. It was clear, therefore, that if the Government wanted good cavalry horses, they must pay more than they had done.

Mr. COOPER-WYLD said the late war had furnished some useful lessons which should not be disregarded as to the means adopted by other countries of keeping up the supply of their cavalry horses; and it now became necessary for this country earnestly to consider whether such establishments as existed abroad, and such as Mr. Tattersall would have the Government establish here, would really be remunerative, and secure a good supply of what was required. He could but agree with Mr. Sidney that it would be impossible to obtain from the House of Commons, as it was at present composed, a vote of a large sum of money for maintaining such establishments, even if they were required; but as there was a fund, as it were, for the supply of cavalry horses in all the gentlemen's stables throughout England, he did not consider it necessary to establish Government studs (Hear, hear).

The CHAIRMAN said, in bringing the discussion to a close, he did not think it desirable to intervene between them and Mr. Tattersall's reply. All he would say, therefore, was that he was glad the subject had been discussed, and that he fully concurred in the remark which had been so frequently repeated, that if the Government wanted good horses it must pay for them.

Mr. TATTERSALL then replied: As regarded the mode of accomplishing the object of the Speaker of the House of Commons, he wished to see the formation of societies of gentlemen who would buy up wherever they could find it, a first-rate brood mare or two, and distribute among persons who had not the means of breeding from valuable animals. Of course there would be difficulty in carrying out anything of that kind; but there was no difficulty which might not be overcome. As regarded the action of the Government, what he meant to suggest was, that a breed of stallions should be kept, and sent through the country, not for the army, but for the Government itself. They all knew how strong was the force of example, and they all knew, too, that many men who bred horses were not good judges—not having much money at their disposal were too ready to get a horse about 10s. less than a good one.

He thought it would be a very good thing—and in that view he was supported by one of the most practical men in the country—if prizes were given by different agricultural shows for stallions which had covered for an entire season at £1 to £2 (Hear, hear). As regarded the Government, it must either do something like what he had suggested, or it must pay more money for horses. That was the line of argument followed in his paper. If stallions were properly bred and distributed, prizes for them might do a great deal of good. They all knew that if a bad stallion went into a district, the evil effect could not be got rid of for half-a-century. Mr. F. Sherborne asked him what would be the cost of what he recommended. On that point he would ask what was the use of this nation being the richest nation in the world if it could not obtain what it wanted? (Hear, hear). Both in numbers and in the class of horses the English cavalry ought at once to be placed on a proper footing. If the Government wanted 10,000 or 20,000 horses, it ought to have them. It would be far better to buy them at once at the market price than to go on for years trying to obtain horses at a price that would not pay to breed them (Hear, hear). If Prussia had not had good cavalry horses she would not have won as easily as she did in the late war. Count Lenndorf wrote to him last year that the Prussians were going to have at Berlin the largest international horse-show ever seen on the Continent, and asked him to go there and act as a judge; and the Count was the very man who delivered to Mons. Benedetti the celebrated message which was said to have caused the war (Hear, hear). When the war broke out the Prussians were perfectly prepared for it as regarded cavalry, and he wanted to see his own country in a similar position. He did not believe that it was impossible England could be attacked, and the entrance of hostile Uhlans into England would send down the funds to 50, and cause an amount of loss to which the payment of £200,000,000 would be a trifle (Hear, hear). Something ought to be done, well, and done quickly, to improve our breed of horses for cavalry purposes. He knew many districts in which landed proprietors had endeavoured to secure that object. Mr. Henry Chaplin hired Rapid Rhone last year at a cost of 300 guineas; he had again hired it for the present year, and for two seasons the farmers would have had the intended benefit for a very low charge. Mr. Bissett, the master of the North Devon stag-hounds, paid £120 for one year, and £100 for another for First Flight. These were good examples, and he hoped they would be extensively followed (cheers).

On the motion of Mr. Bedall, seconded by Mr. Sidney, a vote of thanks was given to Mr. Tattersall for his paper.

Mr. SIDNEY asked Mr. Tattersall at what price he thought a good useful stallion could be hired?

Mr. TATTERSALL replied that he thought a good thoroughbred might be hired for about £100 a-year, adding that he had spoken only of thoroughbred horses, and that he did not believe in any other; they must breed on one side or the other from a thoroughbred horse.

The proceedings terminated with a vote of thanks to the Chairman.

THE FARMERS' CLUB.

THE NECESSITY FOR SOME UNIFORM SYSTEM OF WEIGHT OR MEASURE IN THE SALE OF AGRICULTURAL PRODUCE.

The Sub-Committee of the Club, as appointed by the Committee of Management at the monthly meeting in February to confer with the Committee of the International Decimal Association, had an interview with the representatives of that body on Wednesday, February 15. There were present on the part of the Club Mr. J. B. Spearing, the chairman, Mr. G. M. Allender, Mr. B. P. Shearer, Mr. G. Smythies, and Mr. H. Corbet; and for the Association Earl Fortescue, Mr. J. B. Smith, M.P., Mr. S. Brown, Mr. F. Hendriks, Professor Voelcker and Professor Leone Levi. In accordance with its instructions, the Committee appointed on behalf of the Club has now to present its Report.

The disadvantage under which the producer labours from the want of some uniform system of weight or measure has in years past continually occupied the attention of the members of the Farmers' Club. At a meeting in May, 1857, the following resolution was passed: "This Club is of opinion that a uniform system of weight or measure for the sale of corn is desirable;" and a Committee formed to inquire into the best means of establishing such a system. This Special Committee "felt justified from the communications received, as well as from the opinions expressed, in recommending the sale of corn by weight as the best means of establishing uniformity of system in the sale of agricultural produce." A letter embodying that opinion, and putting some further questions as to the desirability of weight or measure, was subsequently addressed to every Board of Guardians, Chamber of Commerce, and district Farmers' Club in the Kingdom, the answers to which were thus classified:

43 Unions and 17 Clubs were for sale by *weight*.

12 Unions and 6 Clubs were for sale by *measure*, irrespective of weight.

6 Unions and 1 Club were for some uniform system, but did not specify any particular one.

Some Unions and Clubs recommended sale by the imperial bushel, the seller stating the weight; others by the imperial bushel, to be of a certain fixed weight. A few advised a uniform decimal weight; while far more replied simply in favour of sale by weight, or for a measure of weight. On the other hand, certain Unions and Clubs were strongly opposed to any system, excepting that of sale by the imperial bushel, altogether irrespective of weight. It will be observed that at that time—towards the close of the year 1857—so far as the sense of the country could be gathered, there was a very decided majority in favour of the sale of corn by weight, and your Committee has reason to believe that this feeling for sale by weight has much extended since the Club last made any general movement in the matter. It will be found, further, that in 1857 some few of the Farmers' Clubs were even thus early alive to the facilities offered by the adoption of a decimal system of weight; and again your Committee is induced to think that the feeling in favour of this principle has extended not only in our own, but more particularly in other countries. What is known as the Metric System, a measure calculated by decimals, is now in use in France, Spain, Portugal, Holland, Belgium, Italy, Switzerland, Greece, Mexico, Chili, Brazil, and India; while in Germany and America it is already permissive, and on the 1st of January, 1872 will become compulsory throughout the whole of Germany. The Select Committee of the House of Commons in 1862 unanimously reported in favour of the adoption of the Metric System of weights and measures; and the Royal Commission of last year recommended the Metric System, but for the present only permissively. It is said that the Government, in a Bill which it is about to bring in, will adopt this recommendation, although there can be little hope of any new system making much way on such terms. Certain fixed interests, or more properly *habits*, will oppose its progress, as even to this day the standard imperial bushel is followed or discountenanced, just as the trade and custom of a district may please to acknowledge or ignore it. Any legislative effort to thoroughly establish any uniform system of weight or measure must be compulsory to be effective; and your Committee, looking to the interests and convenience of the producer, is of opinion, as the Club was years back, that a uniform system is desirable, and that this is most practicable by a standard of weight. It is still further to be wished that such uniformity might extend not only through

the United Kingdom, but over the whole of the civilized world; as it is almost impossible to overrate the advantage to the farmer of being able to tell for himself at a glance how his own market stands in comparison with Paris, Chicago, Limerick, or Stettin.

To render this principle perfect in its action it would of course be desirable that the *same* names for weight and measures should be employed in all countries in which the Metric System is adopted; and in this scheme no preference is given to any modern language, but it has been very judiciously determined to go back to Greek and Latin roots for the terms employed. Thus the *gram*, or grain in weight, originally signifying a twenty-fourth part, is from the Greek *gramma*, a letter, of which the Greek alphabet contains twenty-four; while *hecton*, a hundred, and *kilon*, a thousand, from the same language, readily adapt themselves to the composition of kilogram and hectogram; and these titles are, after all, not so very un-English in their sound, as we are already sufficiently familiar with telegram, diagram, monogram, and so on. Then, again, metre, the unit of length in the Metric System, from the Greek *metron*, a measure, is now more thoroughly English. We have metre itself to mark the time in music, and an almost infinity of words in composition, such as dynamometer, lactometer, thermometer, and hydrometer. These are surely quite as difficult to master as hectometre, kilometre, or dekametre. Issued with the approval of the International Decimal Association, these weights and measures

would be easily calculated by tens, hundreds, and thousands, as it is said that a knowledge of the tables has already been acquired with remarkable facility by children in our schools.

To your Committee, then, it certainly appears, alike from the harmony or consistency of the principle, and the success which has so far attended its introduction, that the Metric System has more promise of obtaining uniformity of weight and measure than any scheme which has so far been propounded. At first the terms may look like "hard words," but when these come to be analysed they are quite as significant as those still almost mystic phrases a bushel and a gallon. If, moreover, other countries like France, Belgium, Italy, and India can accommodate themselves to these new weights and measures without inconvenience, it is difficult to understand why the English people should fail to do so. Your Committee consequently feels that it may recommend the Metric System with some confidence—naturally not for common observance in the outset, but to be by tuition gradually familiarised in our schools, and more directly recognised in Government and other public contracts, previous to its general introduction.

At a Meeting of the Committee of Management, on Monday, March 6th, the above Report was unanimously adopted; and it was resolved to present a petition from the Club to Parliament in favour of the establishment of the system here recommended.

THE CENTRAL CHAMBER OF AGRICULTURE.

A Council Meeting was held on Tuesday, March 7, at the Salisbury Hotel, the attendance being about an average one. The chair was taken at 11 o'clock by Sir Massey Lopes, M.P.

The minutes of the previous meeting having been read and confirmed, and some other preliminary business transacted,

A letter was read enclosing a resolution which had been passed on the subject of the Malt-tax to the Chancellor of the Exchequer. It was to the effect that the Chamber had refrained from forming a deputation on the subject—deeming it expedient to repeat the application made last year—because on that occasion the Chancellor expressed his conviction that it is impossible to levy a revenue of nearly £7,000,000 upon a single article of agricultural produce without very much interfering with the cultivation of the land and with the business of those who are engaged in it; but the Council trusted that the hopes of relief founded upon the favourable reception of their proposals were about to be realized; believing that a reform of the oppressive Malt-duty was only postponed last year in order to accomplish the important remission of the sugar duties; and the Council earnestly entreated attention to the pressing claims of the growers of barley and the consumers of beer. The resolution was, "That this Council urge the Government, when reviewing the general licensing system of the country, to consider the unjust pressure of the Malt-tax upon the growers of barley and upon the labouring classes, who are the great consumers of beer."

On the motion of Mr. C. S. READ, M.P., it was resolved that the letter and resolution should be forwarded.

The following was also presented:

MONTHLY REPORT OF THE LOCAL TAXATION COMMITTEE, MARCH, 1871.—In presenting their report to the Council of the Central Chamber of Agriculture, the Local Taxation Committee have much pleasure in stating that during the past month increased progress has been made in rousing the public mind to a sense of the importance of the local taxation question. The committee would call attention to the recent debate in the House of Commons on the 28th of February. It was the first occasion on which those of your committee who are members

of Parliament thought themselves justified in pressing for a division, and they feel that the result is highly gratifying; for though in the minority, yet the number who voted in favour of Sir Massey Lopes' motion was sufficiently large to justify the expectation that before long the Government will be induced to give more serious consideration to those views which are advocated by your committee. The committee beg to point out that on the occasion of this debate there was the largest House of the session, and the majority in favour of the Government was the smallest they have obtained in any important division. It is worthy of notice that amongst the 195 who composed the minority there were many members who ordinarily are supporters of the Government. The fact of their voting as they did proves that the question is not altogether regarded from a party point of view. This object has been steadily borne in mind by the committee from the very beginning, and they deem it most essential. At the same time your committee regret that they have heard nothing to give them any assurance that the Government have any intention of dealing with the subject in a broad, statesmanlike, and comprehensive manner, and it will be a matter for the careful deliberation of the Executive Committee, whether, on the appearance of Mr. Goschen's promised bill, it will not be advisable for a deputation to wait upon the minister and bring more immediately to his notice the views which they continue to advocate. Your committee observe that in the proposed legislation for the present session there are two Government measures which will considerably affect rate-payers. The "Army Regulation Bill," and the Elections (Parliamentary and municipal) Bill. Clauses 28, 29, and 30 of the former provide for the borrowing of money for the erection of barracks for the accommodation of the militia, the principal and interest to be discharged by the rates. The Elections Bill, in clause 17, proposes to charge all electioneering expenses incurred by the returning officer upon the local rates. Should these clauses pass unaltered, there will be a considerable increase of the burdens upon the already overtaxed ratepayer. Those of your committee who are members of the House of Commons will do their utmost to secure

some modification of these clauses. There are also two private bills before the House, one of which provides for the payment of coroner's superannuation allowances out of the rates, and the other proposes to exempt hospitals and charitable institutions from contributing to the rates. Your committee entertain very strong opinions against the exemption of any such property from rates. Your committee have much pleasure in reporting that their appeal to the various Board of Guardians throughout the country has met with considerable success. Numbers of petitions have been presented by these bodies to Parliament, praying for a revision of the existing system of levying local taxation, and your committee cannot help thinking that these petitions, together with those presented by magistrates assembled in Quarter Sessions, will considerably influence the deliberations of the Legislature. The committee are also glad to state that they have been able to add greatly to their number during the past month, no less than thirty members of the House of Commons having consented to give the benefit of their advice and assistance to the general committee. Signed on behalf of the committee, **MASSEY LOPES**, Chairman.

On the motion of Mr. CALDECOTT, seconded by Mr. T. WILLSON, this report was adopted.

After a short discussion, it was resolved that the following should be the subjects of discussion for the next three monthly meetings:

Tuesday, April 4th—

The mode of Assessing to Property and Income Tax.
The various Game Bills before Parliament.

Tuesday, May 2nd—

The Government Licensing Bill (if introduced).
The Government Bill on Local Taxation (if introduced).
Poor Law Medical Relief

Tuesday, June 6th—

The Turnpike Trust Question.
The Hardships of the Present Jury System.

Mr. ARTHUR STARTIN (Warwickshire) in the room of Sir G. Jenkinson, whose name appeared as the mover in the agenda paper, moved the following resolution: "That the present incidence of Local Taxation, imposing, as it does, many new and national charges not mentioned or contemplated by the original Act of Elizabeth, and falling, as it does, on real property only, is unjust, and requires revision; and that no bill on this subject which continues the exemption of any other property from contributing towards those new and national burdens, will be regarded as just and satisfactory by the owners and occupiers of real property." As one of the first who, five years ago, called attention to the anomalies and injustice of the present Poor-law assessment, he had to congratulate the Chamber on the progress which the question had since made in public opinion. On behalf of those who thought strongly on the subject he begged to tender his thanks to the hon. gentleman in the chair for the very able and unanswerable way in which he had put the case before the House of Commons in the previous week. He felt that he might safely say "unanswerable" inasmuch as the minister of the Crown, who got up to reply, spoke for two hours, whilst all he said in the opinion of what was called the "leading Journal" was, "We have a bill prepared." Incidentally, however, the right hon. gentleman did allude to many difficulties in the question, and every one who had studied it at all must know perfectly well that there were many difficulties to contend with in the attempt to change a system like that of local taxation, and the rating system generally. In the first place, Mr. Goschen raised an objection to a grant in aid from the Consolidated Fund, and trotted out the usual stock agreement that it would lead to lavish expenditure. He also said, amongst other things, that the Poor Law Board, of which he was then the head, were continually at issue with the Boards of Guardians in the country, as to their improvident expenditure in the way of out-door relief; and he went on to observe, that if a grant were made from the Consolidated Fund in aid of this improvident management, injustice would be done to Scotland and to Ireland. Now he (Mr. Startin) thought there was a very simple way of meeting that objection with regard to a grant from the Consolidated Fund. Every one who had sat on a board of guardians at any time during the last 20 years must know that the freedom of action of these bodies was very limited. That "freedom of action," indeed, amounted simply to

this—whether an old lady should have 2s. a week and a loaf, or a little more or less. As to undue expenditure and the control over the officers of the Union, every gentleman present would agree with him that the guardians had no control whatever. Every matter of detail of that kind was settled for them by the orders and regulations of the Poor-law Board. This being the case, why not, in the first instance at any rate, confine the grant to that portion of the public expenditure over which the guardians had no control, and over which the country represented by the minister of the Crown had all control? Then the sister kingdoms of Scotland and Ireland, if treated in the same manner, could have no reason to complain. Mr. Goschen next urged how much easier it was to raise money by rates than by taxes. But that, as Mr. Rathbone, member for Liverpool, pointed out in the same debate, carried condemnation upon the very face of it. It simply led to this, that the Government rather than take the invidious course of imposing new taxes, which every Chancellor of the Exchequer tried to evade in every possible way, and instead of bringing it forward in the annual budget, would endeavour to thrust all they could upon the rates. That proposition of the right hon. gentleman, then, stood self-condemned. Knowing that he had a weak case, Mr. Goschen next descended from argument to sentiment, and turning to the county gentlemen in the House of Commons, appealed to their *amour propre*, by telling them that, if they dipped their hands into the public purse in aid of police expenses, they would lose caste in the country, that the courts of quarter sessions would not continue to occupy the position they did now, that the county gentleman would, in short, sink in the social scale, and lose his *prestige*. Recourse to such an argument as this was proof of the weakness of the right hon. gentleman's case. He then went on to show that the land of England—it did not appear whether he included houses or not—bore a less per centage of the general taxation of the country than land abroad. That might or might not be so; but it had nothing whatever to do with the question, and the first thing to ascertain was, whether the system of taxation abroad was a just one; whether, in short, landed property in foreign countries was over or under-assessed, and what was the relative proportion of burden borne by personal wealth in England as against realty. Nothing, therefore, but such an inquiry as Sir Massey Lopes had asked for would settle the question, whether the land in this country was justly or unjustly assessed. Again, Mr. Goschen endeavoured to show that there was no reason to complain, inasmuch as the rate on real property in 1826 averaged as 4s. 6d. in the £1, and that owing to some cause or other in the year 1870, it had been reduced to an average of 3s. 2d. in the £1. Well, it was said that anything could be proved by figures, but there might be gentlemen present who recollected the way in which assessments were made in 1826, though he himself did not; but he had heard it stated by those who should know, that the assessments were made in the loosest possible manner, upon 25, 30, or 50 per cent. of the true value, whilst now we had an assessment upon the rack rental value. Therefore, the presumed decrease on landed and real property would not amount to anything like the sum it was set down at. But here came in a question which he owned he found it difficult to answer. Mr. Goschen said there was a great difference in the incidence of local taxation upon houses, buildings, and lands, and no doubt the more this point was investigated the more were the difficulties which presented themselves. As to the incidence of local taxation upon houses in towns, we must carefully steer clear of drawing any distinction between town and country. He was not there to advocate any advantage being given to the country that the town would not partake in. If the question were closely investigated it would be found, in regard to the incidence of local taxation upon buildings in towns, that the portion of the rate falling upon the owner attached to the value of the site, and the portion of the rate paid by the occupier was simply levied upon the buildings. And he arrived at this conclusion upon these grounds, that buildings being simply bricks and mortar were destructible, whilst the land was indestructible. Political economists, even Mr. John Stuart Mill himself, would agree with him that all charges upon destructible or consumable articles fell upon the consumer. He thought, therefore, that it would turn out that this taxation pressed very heavily upon the artisan classes in towns. The shop-keeping classes occupied a different position. Again,

there was to be a distinction drawn between ground-rents. The amount of ground-rent would be high in proportion to the capital embarked in bricks and mortar, and according to the nature of the site. Thus, a site in the neighbourhood of the Bank or any of the great London thoroughfares would bring a higher ground-rent than elsewhere; and, therefore, the per centage of taxation on the owner there would be much larger than in a country village. The occupier of a shop-following up the principle he had endeavoured to enunciate as to the artisan, would have to pay a tax upon his dwelling-house so far as he occupied it as a dwelling-house; but there came a distinction with regard to the portion assessed as a shop, and here was a difficulty which he confessed required considerable reflection in order to get to the bottom of it. He was inclined to think, however, that the rate on the shop would be a part of the expenses of the tradesman which he would recoup himself out of the profits he made by his customers. That portion of the rates would, at all events, be distributed amongst the tradesman and his customers. He would now turn to the case of the occupier of land in the country; and here again the same principle would apply. Of course it must be admitted as an indisputable fact, that any new or unexpected charge fell upon the tenant, whilst the old charges fell upon the landlord. He would try, however, to eliminate the interest of the landlord from that of the tenant. The land, as he had observed, was indestructible, and the rates upon that undoubtedly fell ultimately upon the owner; but as to the farm buildings, the fences, the drainage, and every portion of the annual income which arose from the capital invested, and which was of a destructible nature, he was not quite sure but it would fall upon the tenant, who, like the tradesman in London would, if he were able, and if he had no competition on the part of untaxed counties to contend with, recoup himself from his customers. Another argument of Mr. Goschen was that the poor-rate, from its antiquity, had become a rent-charge, and in support of this view the right hon. gentleman quoted a writer in whom he (Mr. Startin) had the highest confidence, namely, Mr. John Stuart Mill, and asked, "Was this a burden to be taken off the land and charged upon the general taxation of the country?" Now, what was a rent-charge? One of the first elements of a rent-charge was that it should be fixed in its amount, and known to every one; but in the poor-rate we had a moveable quantity. Every person buying or succeeding to an estate was liable to an unknown amount of taxation, and it might be increased or it might be diminished. If the poor-rate were a rent-charge, what, for example, could be more iniquitous than the Union Chargeability Act, which took from one proprietor to relieve another of a "rent charge?" Or he would take a new house, or a coal mine, or the reclamation of land from the sea, as in Lincolnshire. If the poor-rate were a rent-charge, would it not be unjust to assess the new house, the newly sunk coal mine, or the reclaimed land to the rate, and assess gentleman who had to pay a rent-charge already? Surely this was one of the weakest points in Mr. Mill's political economy. If it were right to bring this new property to charge why should they stop there? Why not bring in the gentleman who derived his income from money in the funds? It was simply a question of laches. The Government of this country had neglected their duty in omitting to bring this property to charge years and years ago. By an annual exemption act they had prevented the landed interest even from protecting themselves, and now they turned round upon families who had succeeded from father to son for centuries to their estates, as well as upon purchasers of estates, and said, "We will take advantage of our own wrong, and establish a vested interest in that wrong. A rent-charge has grown up, and we will not relieve you from it." Here Mr. Goschen again quoted Mr. Mill, to show that the land increased in value, whilst the owner of it slept, and without any exertion on his part. This was true so far as that portion of the land was concerned which he had distinguished as indestructible. Mr. Mill was no doubt right when he spoke of a country like this, where the land was a monopoly, and fortunes were being daily realized from trade, which gentlemen were anxious to invest in land. There was, he repeated, some truth in this; but, judging from Mr. Mill's speeches in the House of Commons, and information from other sources, which he did not feel himself at liberty to divulge, he entertained great doubt, if Mr. Mill had to rewrite that portion of

his work on political economy, whether he would treat the question in the same manner now. He must have forgotten this fact, that there was no difficulty in realizing one per cent. per annum more for money than for land; therefore that one per cent. was compulsorily laid by in the shape of this increased value given to capital in land; and he feared he must add, as he was trying to argue the question impartially, that that one per cent. so laid by did not contribute to the income tax. He had now gone through the speech of Mr. Goschen, who had told them distinctly that he would not consent to place any charge upon the consolidated fund, for a variety of things, such as the new militia barracks, the education rate, and so forth, which were proposed to be levied upon the local taxation of the country. How, then, was the question to be dealt with? It was the last straw that broke the camel's back, and he thought that the cup of their indignation might ere long overflow, and that they might turn round upon the Ministers, and say, "If you pile up injustice on injustice we will not combine to assist you in the way we have hitherto done, but resist you to the utmost, and take every opportunity of throwing grit in the wheels of the State (cheers)."

SIR GEORGE JENKINSON, M.P., in seconding the resolution, after apologizing for his absence, when it was moved, said it seemed to him that that question had not been generally submitted to the plain and simple issue that he desired to see it submitted. Without entering into the question of the difference between land and houses, which Mr. Gladstone and Mr. Goschen argued so abstractedly the other evening—without going into the question of the incidence of rating, the division of burdens as between owner and occupier, and all those minutiae which were alluded to in the recent debate, and which were glanced at the other day by Mr. Read, when he used the simile with respect to the shifting of the load on the donkey's back—he would observe that the broad issue raised in connection with that subject was, whether property in the funds, in mines, and in various other kinds of investments should be any longer exempted from their fair share of the public taxation (Hear, hear). Let the Government on the one hand consider what burdens were imposed by the Act of Elizabeth, and what property existed in that day to bear those burdens, and let them further consider what property there was now which did not exist in the time of Elizabeth, and in what proportions the two classes of property, real and personal, contributed to local and imperial taxation. He had some figures which showed that the class of property whose rights he advocated contributed quite as much, if not more, to the taxation of the country as the other classes of property to which he had just alluded; and he should have used them in the debate in the House of Commons on the motion of Sir Massey Lopes, but that he did not wish to prolong the debate, and thereby delay the division. So far as he could judge, they were not likely to have from the Government a Bill dealing in what they would consider a satisfactory manner with that great question; and in the words of the resolution, "no Bill on this subject which continues the exemption of any other property from contributing towards those new and national burdens, will be regarded as just and satisfactory by the owners and occupiers of real property." That was the point to which they must stick, and they must not allow themselves to be diverted from it by any question of assessment as between landowners and occupiers (Hear, hear). Their great object should be to insist on the non-exemption of other property besides land from burdens which were raised for national and not mere local purposes. The average amount of the present rates in the towns throughout England was about 3s. 4d. in the pound; but in many towns it was as high as 5s., 7s., and even 8s. He had always maintained that that question affected the interest of the towns far more than that of the agricultural and rural districts, and hence he had always been anxious that the towns should be induced to take a leading part in the movement. The state of things to which he had just alluded could not be considered healthy; and what he wished to see was the establishment of some fund which would do away with the present enormous rates, and substitute for them a small payment in the shape of an income-tax. It had been frequently alleged, and the statement was supported by figures, that the total of the incomes of all classes of society in this country was not less than £700,000,000, of which only £100,000,000 was subject to taxation. A fourpenny or six-

penny tax upon the whole income of the country would provide for all the charges in question. If the Government said that the maintenance of the poor properly belonged to the owners and occupiers of real property, but that they would pay the establishment charges of the poor-law administration, and at the same time provide for all the new charges which, as they alleged, were of a national character, out of the Consolidated-fund, would be an approach to what they demanded and what they considered to be required by justice. He did not believe there would be any difficulty in providing a county-fund, to be under the management of the Courts of Quarter Sessions, and a county financial board. He would have paid into that fund, in every county, the proceeds of the licences on beer-houses, the assessed taxes on dogs, and other charges of that kind, and he would have placed on that fund the maintenance of turnpike-roads, &c.; in other words, he would have a county fund supplemented by the proceeds of the different charges which he had indicated. He believed that some such plan as that would prove a great boon to the different counties. It having been ascertained what was the average county expenditure in the last five years, the Government should, in his opinion, supplement the county-fund by a payment from the schedule to which he had alluded—not, let it be observed, from the Consolidated-fund, or from any fund to which Ireland and Scotland contributed; but from a separate schedule for England and Wales, to be called the county-expenditure schedule; and if the Government paid a fixed sum to every county according to its requirements, such payment being based on the average expenditure of the last five years, that would take off a great deal of the weight of taxation from the backs of those who were now so unjustly burdened (Hear, hear). If the Government would pay the medical officers under the poor-law on a far more liberal scale than they were paid at present, the existing remuneration being only about sufficient to cover the cost of the drugs supplied to the poor, they would, no doubt, perform their duties better than, with the best disposition, it was possible for them to discharge them now, and that would be at once a benefit to the poor and a relief to the ratepayer. As regarded the argument that if the Government were to pay any portion of the charges which were so much complained of, there would be great waste in the administration, he had never heard it stated that the Government money applied for the maintenance of prisons was wasted because there was local management; nor, would there, in his opinion, be any increased extravagance under the system of administration which he had suggested, that of the magistrates assembled in Quarter Sessions, combined with county financial boards (Hear, hear).

Mr. VARDEN (Worcestershire) said some allusion had been made recently to the high rates levied in 1826. He was old enough to remember that period, which was one of intense depression in the agricultural districts. He then lived on some border land in the counties of Surrey and Sussex, and he recollected that whole parishes were thrown out of cultivation because people could not cultivate land at a profit, in consequence of the onerous character of the rates. He believed that local taxation would never be properly adjusted until all matters appertaining to it were brought annually under the revision of Parliament, in the same manner as everything connected with imperial taxation.

Professor BUND thought the proper course to pursue, in order to secure a revision of local taxation, was first to attack the poor-law system and endeavour to obtain a general recognition of the principle that the support of the poor being a national object, the present assessment on real property alone ought to be abrogated. If they succeeded in that they would be in a fair way for obtaining a revision of the whole system of local taxation (Hear, hear).

Mr. GENGE ANDREWS could not entirely concur in Mr. Startin's resolution, because it left out of sight the great principle for which they had agitated from the commencement of the agitation of the poor-law question, what they had objected to being not so much the poor-law assessment as the exemption of a very large proportion of the personal property of the kingdom. If they passed the resolution as it stood they would be assenting to the whole charge under the poor-rate assessment being a continual burden on real property, and for every penny of relief which they obtained from the Consolidated Fund they might have to pay 1½d. He wished to read the

following letter, which had been sent to the Chairman, Sir Massey Lopes, from Plymouth:

Plymouth, March 2nd, 1871.

Sir,—According to the *Daily Telegraph* of yesterday, Mr. Goschen is reported to have said in the House of Commons, on Monday night, as follows: "To take the hon. baronet's own county (Devonshire), it would be found that while the poor-rate was only 8s. 3½d. for the county it was as high as 6s. 10d. in Plymouth." You will best know whether the above is a correct report. I do not know what the poor-rates are in the county, but I am positive that the highest amount of poor-rates in Plymouth, for one year since 1861, is 8s. 6d. in the pound only. Mr. Goschen must have meant the *whole* of the rates, and has been incorrectly reported in the *Daily Telegraph*.

H. H. FUCHES,

Clerk to Messrs. Bulteel and Rowe.

Let them be repeated, stick to their original principle of attacking the exemption of personal property, and let them not enter into such arguments as had been introduced by the mover and seconder of the resolution, which would prevent them from going straight to the main point that personal property as well as all other property ought to contribute.

Mr. CORRANCE, M.P., said he felt bound to testify that in the recent debate their Chairman made one of the most exhaustive speeches that he had ever heard in the House of Commons (cheers). The question was debated under some difficulty; for after Sir Massey Lopes's able speech it became almost a matter of necessity for those who concurred in his views to wait and hear the Ministerial reply. It seemed to be the general opinion that Mr. Goschen's speech did not warrant any extraordinary expectations. At first it looked as if Mr. Goschen were going to make some great concession. He announced himself to be a competitor with the hon. baronet; but what was the nature of his competition? He denied that by the extraordinary system of local taxation now in operation capital was alienated from the soil, and the extraordinary reason which he gave for that was, that land sold for more than it had ever fetched before. After having misquoted Sir Massey Lopes, he went on to say that considerations which he (Mr. Goschen) had brought before the House would determine the course of legislation. If they did there was little to be hoped for in that quarter. There was not a single point in Mr. Goschen's speech that rested on a sound basis; and he (Mr. Corrance) concurred in the opinion that before the Government Bill was introduced they ought, if possible to see the President of the Poor Law Board. He would conclude by remarking that he regretted that the late division could not be taken on a fair and proper issue, and that many of their friends representing towns were prevented from voting with them by the announcement of the Government that they had got a full and satisfactory measure, which would settle all difficulties. Under those circumstances it was not to be expected that many members who usually supported the Government would vote in opposition to it.

Mr. KENNAWAY, M.P., was glad to hear Sir George Jenkinson suggest something definite in the way of reform. While there was a Government measure in prospect it would be difficult for them to adopt a line of action; but he thought they might agree as regarded principles, and then lay them before the country for fair and just criticism. It would, of course, be impossible for the General to lead out his troops for such a sortie as that of the previous Tuesday very often, and anybody who suggested an amendment of the present system might do good service to the cause. The notion of a danger of collision on that question between owners and occupiers was now completely dispelled, and what they had now to guard against was the danger of there being a bone of contention between town and country (Hear, hear).

General Sir PERCY HERBERT, M.P., said he thought the argument made use of by Mr. Gladstone and Mr. Goschen, in resisting the motion of Sir Massey Lopes, was a very strong one, and one that could not easily be set aside; namely, that if public money, collected by means of taxes, were spent by local bodies, that would be very likely to lead to extravagance. It was well for them to consider the force of that objection. But there was a reverse to the medal, and it was that if the House of Commons were to legislate for local expenditure and the ratepayers raised the money, it was very likely that the extravagance might be on the side of the House of Commons

(Hear, hear, and cheers). As regarded the Government proposal with respect to militia barracks, he must say it was with a feeling of shame that he had witnessed it; and, on the previous night he gave notice of his intention to move the omission of the clauses which provided for barracks being paid for out of the rates.

Mr. C. S. READ, M.P., said he thought that members of Parliament ought not to speak too much at these meetings (laughter); but, nevertheless, he wished to say a word or two on an historical question. The resolution spoke of "the original Act of Queen Elizabeth." It was to an Act of the reign of Edward VI., that they must look for the first poor-law, or idea of a poor-law. It was there said that the parochial officers were "to collect alms for the poor." Of whom were they to collect them? Why of the parishioners, without regard to the question whether their property were real or personal. It was in an Act of the reign of Mary that the word "ability" was first introduced. Again, there was an Act of the 43rd of Queen Elizabeth. It appeared that people did not know what their "ability" was, and that it was the duty of the justices to assess and admonish those who did not give enough. In the course of time came the Act of James I., in which the words, "means and substance" first appeared. If the great statesmen of those times did not think of exempting personal wealth when it was comparatively such a rude bill, if they lived now, they would certainly not think of releasing it from its obligations when it had become such a ponderous mountain (cheers).

Mr. CALDECOTT (Warwickshire) wished to observe that the rates imposed in towns for sewers, gas, and so on, were imposed, by the inhabitants voluntarily for their own benefit, and therefore the case did not at all resemble the case of poor-rates and county rates. As regarded the year 1826 he happened to remember that period, and he agreed with a preceding speaker that the whole country was then in a state of exceptional distress, and that it was very unfair to compare the rates of that period with those of the present day (Hear, hear). As regarded the argument that with supplemental aid of local taxation out of the Consolidated Fund, there would be no adequate control or supervision of expenditure, he might observe, that in his own district the average attendance at the meetings of the Board of Guardians in 1846—the year before the Union Chargeability Act was passed—was 14, and that in 1865 it was 15; and in 1869, 19. Those figures showed that there had been no relaxation of supervision in consequence of the changes already made.

Mr. WOODWARD (Worcestershire) hoped that care would be taken to prevent the Government from detaching the towns from counties as regarded that question. It had been well remarked in the *Saturday Review* that questions of that kind were decided not by reason but by votes, and he hoped that all the Chambers would bring their influence properly to bear on their members.

Mr. J. SMITH (Essex) did not think there was any cause for discouragement. Seven years were occupied in bringing the free trade question to a successful termination, and although that question of local taxation was first raised only about three years ago, 200 Members of Parliament had been found ready to support them (cheers).

The CHAIRMAN said he wished to explain that, owing to the previous question having been proposed in the late debate, it was impossible for him to make any reply. He felt quite sure that if that had not been done they would have had at least 30 or 40 more members on their side; but he was glad to find that the Council agreed with him that the division was a very satisfactory one (cheers). Not having been able to reply to Mr. Goschen's remarks in the House he was glad that they had been so well replied to that day. Mr. Goschen told the House what the local taxation was in Russia, France, and some other countries. He should have liked to ask him why he omitted to mention the United States, where personal property contributed to all burdens as well as real property (Hear, hear). Again, Mr. Goschen told them that Quarter Sessions would be nowhere if the police were done away with. The police were but of recent origin, and he should like to know where Quarter Sessions were before the police were established (Hear, hear). The arguments of the right hon. gentleman were very weak, and they had been already disposed of in that meeting. As regarded the question of a remedy, he was strongly of opinion that it would not be

judicious on their part to propose any remedy at that moment (Hear, hear). It was the duty of the Executive to devise a remedy after a grievance had been proved. He thought they would be in a much stronger position if they waited for the Government plan than if they proposed one of their own.

SIR GEORGE JENKINSON observed that in what he had said on that point, he did not intend in any way to commit the Chamber (Hear, hear).

The CHAIRMAN continued: As regarded the question of sending a deputation to the Government, he also thought it would be well to wait till they had got the Bill. In conclusion, he wished to observe that an important pamphlet by Mr. Dudley Baxter would be published in a few days, and that having seen a proof of it, he would strongly recommend every gentleman who took an interest in that question, to read it.

The resolution was then put and carried.

On the motion of Mr. D. LONG, seconded by Mr. BRIDELL, it was resolved: "That the thanks of the Chamber be given to Sir Massey Lopes, who lately so ably introduced the subject of the incidence of local taxation in Parliament, and also to those Members of the House of Commons who supported him on that occasion."

The CHAIRMAN, in returning thanks, said no man could feel more strongly than he did the deep responsibility that attached to any one who presumed to deal with so difficult a question. He should feel thankful if he had done no harm, and to know that he had done any good would afford him the greatest pleasure and gratification (cheers).

Mr. JASPER MORE said, as a representative of the Shropshire Chamber, he had been asked to propose the following resolution, which he believed had emanated from it: "That this Council protests against clauses 28 to 32 of the 'Army Regulation Bill,' which, under colour of providing facilities to Boroughs and Counties for borrowing money for Militia Barracks, would establish further the objectionable principle that such expenditure should be defrayed by ratepayers instead of forming part of the general military expenditure of the country." He said by clause 28 it was provided that Justices of the Peace in Quarter Sessions and Town Councils in Municipal Boroughs might, with the sanction of the Secretary of State for War, borrow money for the purpose of providing barracks, and that the interest should be paid for by means respectively of a county or a borough rate. While the militia was a local force, something might be said in favour of placing part of the cost on the county rate, but as that was no longer the case, and the patronage was now vested in the Government, there was no excuse for what was proposed in the Bill.

Mr. BOWEN JONES (Shropshire), in seconding the resolution, said, although a large comprehensive scheme was required in order to correct the present anomalies in local taxation, that was no reason why they should not in the meantime resist any attempt to impose any fresh charges on the ratepayers. It was, in fact, through gradual increases that the burden of local taxation had become so intolerable (Hear, hear).

Capt. CRAIGIE said he could hardly imagine that the Government were serious in their proposal on that subject. Perhaps they intended to withdraw it as a sop to those who were agitating for a general revision of local taxation. No one could doubt that there was an absolute necessity for increased barrack accommodation for the militia. The greatest evils connected with that useful force might be traced to the system of billeting in public-houses in towns, and he hoped that that system would be done away with, but the improvement ought not to be made at the expense of the ratepayers.

The resolution was then adopted.

The CHAIRMAN said he was sure the meeting felt grateful to Sir Percy Herbert for having given notice of his intention to make a motion on that subject in accordance with its views in the House of Commons.

Mr. C. S. READ, M.P., moved the following resolution: "That the proposed payment of the expenses of parliamentary elections out of the county rates would be an aggravation of the present excessive burdens upon rateable property." The hon. member said he had struck out the words "and municipal," which appeared in the resolution as it stood on the agenda paper, because there might be some reason for placing the expenses of such elections on the boroughs, seeing that they could hardly be considered national institutions, and every electioneer a rate-payer. All the electors in counties were not

ratepayers; in fact, not one elector in ten was a ratepayer where there was no compounding for cottages. Let him take his own case. He paid rates on something like £1,000 a-year, and he had a vote. At one corner of his farm was a little cottage which was occupied by a poor widow, and the rental of which was £6, and there were three men there who had votes, and who could not possibly be called upon to pay any election expenses, because they would be paid by the tenant. He should not object to a registration fee, but probably his friend Mr. Jasper More would say that Parliament had no right to fine a man for his vote. Be that as it might, the ratepayers ought not to be fined on account of a privilege which probably nine-tenths of them would not exercise. Some persons, he knew, argued that what he objected to would be a capital thing because it would enable tenant farmers to take a very active part at county elections. They could do that already. For about £300 they could put up a candidate and run him against one of the greatest magnates in the land. He contested a seat in his own county and won by a majority of 1,000, at an expense of £800. Surely that was cheap enough (laughter). In all probability if the Aill in question were passed they would have a lot of vain-glorious men who wished to exhibit themselves, and who would not contribute a penny of their own money, inflicting on the county an unreasonable contest, and giving the electors the pleasure of paying the expenses out of the county rates (Hear, hear).

Mr. TRASK (Hants), in seconding the resolution, said he thought that borough elections should be included in the resolution, though "municipal" was struck out.

Mr. READ assented to this suggestion.

Mr. CORRANCE, M.P., said he was sorry to find himself opposed to Mr. Read, but although the present moment might seem an inopportune one for accepting the proposal in question, he wished to see opportunities afforded for an accession of tenant farmers to the House of Commons, and the proposal objected to would afford them at a very small cost. Who could so well advocate a revision of local taxation in Parliament as persons of that class? (Hear, hear).

Mr. J. MORE said the expense of erecting polling booths could not be less than £500; but under the proposed change school-rooms and barns might be used for voting, and the whole cost need not exceed twenty or thirty pounds. The proposed alteration would be one step towards bringing into the House of Commons men like Mr. Startin and others whom the farmers would like to see there.

Captain CRAIGIE said by the two last speeches the question had been changed from one of principle into one of expediency, and in his opinion it was very inexpedient to allow any new charge to be added to the rates, the Chamber being pledged to resist any addition (Hear, hear).

The CHAIRMAN said there was one very good argument used by Mr. More, namely, that the proposal in question might, if accepted, have the effect of introducing a great number of tenant farmers into the House of Commons.

Mr. J. MORE: No; not a great number, but some.

The CHAIRMAN said he should be glad if it introduced some. That was an ingredient which he much wished to see there (Hear, hear).

The resolution was then put and carried, with the alteration

suggested by Mr. Trask and adopted by Mr. Read, including borough elections.

Mr. H. GEORGE ANDREWS moved the following: "That in the opinion of this Council, good roads cheapen commodities to the consumer, benefit all classes, especially employers of labour and capital, and secure to the public rights of user practically unlimited; and, therefore, that highways should not continue to be a charge on real property only." He said the repair of highways was as much an imperial object as the relief of the poor; and it was recognised as such by law up to a recent period. History showed that formerly highway rates were levied on persons and personalty, as well as on real estate, and the records of the parish in which he resided contained a list of 41 persons who were liable either to repair the road or pay a money compensation. The annual charges for the repair of the highway rates now amounted to £3,000,000, including that is a charge of £1,000,000, which would arise from the abolition tolls, and at present personal property was not bound to contribute one farthing. Last year Mr. Hugessen came there and made very handsome promises with respect to the turnpike roads. The Council then determined to wait; but what was the result? The question was shelved, and Mr. Bruce in his Non-continuance Bill, as he (Mr. Andrews) would call it, for it was not a Continuance Bill—left out roads with tolls to the amount of £195,000 a-year. When the deputation afterwards waited upon him the right hon. gentleman's answer was to the effect that they were no worse off than other parties. Admitting the injustice, he said that injustice must be done because it was done to others. The Chambers should do their best to upset the Government if they persisted in treating farmers in that way. He saw no reason why they should not co-operate on that question with Chambers of Commerce (Hear, hear).

Mr. HICKS opposed the motion on the ground that it was undesirable to deal with any portion of local taxation separately from the rest, and moved the following amendment: "That whilst every opportunity should be taken of pressing for the consideration of a revision of the whole question of local taxation, and any further addition met with determined opposition, it is not expedient to attempt to deal with any one branch apart from the rest."

The amendment was not seconded, and therefore fell to the ground.

Mr. G. TURNER supported the motion.

Mr. C. S. READ, M.P., believed that in the new Highway Bill of the Government, it was proposed that all roads should be repaired out of the common fund of the highway district.

Mr. ANDREWS briefly replied, and the resolution was then adopted.

On the motion of Mr. MUNTZ the Council adjourned till Tuesday the 21st instant, for the purpose of then considering the Government Bill on local taxation, if it should have been made public.

Mr. READ, M.P., expressed his belief that, in consequence of the retirement of Mr. Goschen from the presidency of the Poor Law Board, the Bill will not be introduced till after Easter.

The proceedings terminated with a vote of thanks to the chairman.

BOTLEY AND SOUTH HANTS FARMERS' CLUB.

THE IMPEDIMENTS TO AGRICULTURAL PROGRESS.

At the last meeting, Mr. W. Warner in the chair,

Mr. BLUNDELL said: The subject I have to introduce to your notice is "The impediments to agricultural progress," and in opening it I wish to say that there will be so many points to be introduced to your notice, some of which have formed the basis of discussions at this club on former occasions, that I propose to use as little argument as is consistent with the time at our disposal, and shall content myself chiefly with giving my own conclusions upon the various headings under which I propose to illustrate the subject, and leave for the most part the discussion in the hands of the gentlemen whom I see around me. I propose first to allude to the influence which

leases and agreements for letting land have upon agricultural progress. It is to be feared that leases and agreements for letting land are often drawn professedly in the interest of the proprietor, but still turn out to be practically against his interest and that of his tenant also; in such cases they are very much opposed to good farming. My experience tells me that it is very difficult to bind a tenant by terms and clauses in order to prevent his lowering and impoverishing the condition of the land in his occupation, and then to accept the highest offer as rent. I should much prefer to take a tenant with sufficient capital, giving him a lease for eight or twelve years, or otherwise an agreement for a term, subject to two years' notice with

liberal covenants as to cropping and compensation on quitting for unexhausted manures, chalking, &c.; thus giving the tenant an interest in farming well to the last, and the incoming tenant a favourable entry, for which he ought to be willing to pay. By such a plan the landlord will always ensure a fair rental, and there will be none, or very little diminution in production and agricultural progress. I am decidedly opposed to an annual tenancy. I have seen so many changes of tenants by six months' notice to quit, that I do not hesitate to say the uncertainty of such a holding is often the cause of bad farming. Being always at the mercy of the proprietor, how can the tenant feel justified in high farming with a liberal outlay, not knowing, when he sows, who shall reap? Compensation at quitting for unexhausted manures, &c., certainly palliates the difficulty, but does not remove it, because a tenant cannot shift his residence continually without expenses, oftentimes losses, and at great inconvenience to himself and family. The clauses of a lease cannot be too simple if they are calculated to secure the interest of both landlord and tenant, and I will allude to a few of importance. For instance, a tenant should, in my opinion, not be allowed to crop more than half of the arable land with white straw crop on the vale farms, nor more than two-fifths upon the hill or poor stock farms, simply because it cannot answer his purpose, the most practical system being an alternation with pulse crops, &c., or green feeding crops upon the stock farms. The plan of paying for hay at market-price upon entry is adverse to the tenant, he having to invest more capital which lays dead and pays no interest during his occupation. Again: a tenant ought to be allowed to sell hay and straw enough to pay for his requirements in artificial manures every year, except the last, otherwise this expenditure is an actual addition to the rent of the land. Upon such farms as require it a chalking clause should be entered in the agreement, compelling the tenant to dress a portion of the land every year, the unexhausted effects to be charged to the succeeding tenant. Some arrangement should also be made for the manuring, or otherwise improving, grass land, which is usually so much neglected in this county. The four-course, or Norfolk rotation, being the only recognised system, except on the hill farms, where the five-course prevails, should be the course laid down for an off-going tenant, in order that some definite system should form a basis for quitting. In estate management the want of careful attention to many leading points has much to do with the progress of farming, and in which the whole community are more or less interested. First, let us consider how insufficient are many of the farm buildings in different parts of the country, and my opinion is that great improvements may be made by re-appropriation and re-modelling rather than by new erections or expensive additions. I have seen some homesteads greatly improved by these means, costing but little more than repairing, particularly when (as they usually are) sufficiently extensive. We must not, now we are considering this subject, forget the great advantage and yearly increasing necessity for building a proper number of cottages for labourers attached to the farm, and which should be not less than two tenements per hundred acres; for the system of education now so much extending will render the labourer more independent and more inclined to emigrate than formerly. It will, therefore, be more difficult in the future for tenants to secure and retain good labourers unless they can offer them good cottages near their work, thus affording them a more permanent home. Again: how can we expect a man to do a fair day's work unless he is situated near his labour? His daily strength is partly expended in travelling to and from his work. We do not build our farm-stables miles away from the farm, and so take work out of our horses by travelling. Why should we act otherwise with our labourers? Another subject in connection with landed estates also demands a notice, namely, draining, for, although it has been extensively executed within the past three years, few can estimate the extent of land still requiring to be done. Mr. Bailey Denton—a sufficient authority—states that we have in the United Kingdom upwards of nine millions of acres undrained of clay-soil alone, besides which there is probably as much more of other land which would pay for being drained. Many of the improvements required upon estates have heretofore been very difficult to accomplish, more particularly in the case of entailed properties, but at the present time there are great facilities offered by different companies by loans for the improvement of landed estates, whereby the cost and charges may be spread over 25

years, and I notice more particularly by advertisement that the Right Hon. Lord Ashburton has recently applied for a loan of £25,000, for the improvement of his estates near Alresford, Hants, thus showing that there is but little or no excuse for the neglect of farm buildings, land, &c., which we see around us, and which proves so injurious to the progress of agriculture. Any diminution of the agricultural area of the kingdom is necessarily opposed to progress, unless a corresponding or an increasing area can be obtained by the enclosure and cultivation of woods and wastes, &c. It is my firm conviction that we have not at present so much land under culture or grazing as we had 30 years ago. Look at the enormous quantity of land absorbed by railways and their stations, &c.; look at the extension of factories and public buildings of various kinds. Again, look at the increase of towns and villages consequent upon increase of population and extension of trade and commerce. Take our own neighbourhood for instance. The market gardeners are now driven away from the towns, and have absorbed large tracts of land previously used for ordinary agriculture, and I can only come to the conclusion that much moreland has been taken from the plough than has been given by enclosure and cultivation of wastes. It is, however, a very natural question to ask—How is more land to be made available for agricultural purposes? If we look back at the discussion of this club last session we shall find that there is plenty of land lying idle, or nearly so, in the country, and who is to blame for this when it is proved beyond dispute that a large portion would pay for cultivation? As before observed, money is readily obtainable by loan for the purpose, and, even if it were not, the land may be offered to adjoining tenants, who, in most instances, would be ready to occupy and bring it into cultivation at a nominal rent for a given period, and, as it often pays no rent at present, this arrangement must be a gain and advantage to a proprietor, who would receive a fair rental at the end of a term of years. I have done this myself, and found it answer my purpose and that of the tenants also. It seems a most extraordinary thing, but go which way you will in this country if you find waste land or worthless irregular timber in woods, by just asking to whom it belongs, in nine cases out of ten it is found to be the property of some large or considerable proprietor. Again, where the commons have been enclosed nearly all the smallest allotments have been cultivated, and many of the larger ones neglected. I forbear giving any other reason why this should be the case, except that I believe parties are blind to their own interest. Steam cultivation would also be more generally adopted if proprietors would cut the timber in the hedges and rows and take 4 per cent. for the money, instead of 1½ per cent. which they are now obliged to take in the growth of timber. As it is at present, it is a loss to the owner and occupier, preventing the removal of hedges and the enlarging of fields, diminishing produce, and often totally preventing the use of steam power and impeding agricultural progress. Game: There can be no doubt that the loss by game of agricultural produce, irrespective of impediments to the cultivation of the land, is enormous. As, however, this subject engaged the attention of this Club last year, I intend to confine my observations chiefly to two points, viz., the prevention of game being an impediment to the occupier of land, and the making it profitable as an agricultural production. Firstly, it is not disputed by practical men that at present only one farm in five can be rented free of the game, and probably this freedom applies only to one-eighth of the leased land in the kingdom. It therefore follows that the occupying tenants have no option, under present circumstances, but that of submitting to the reservation of game by the proprietors. The effect of this is notorious—that employment of capital in cultivation is discouraged, that large numbers of occupiers are ruined, and the produce of the land greatly curtailed by the existing state of things; and I can see no other remedy for the evil than that "game be made the property of the occupiers of land whereon it may be found," and "that by legislative enactment any agreement for the letting or reservation of pheasants, partridges, hares, and rabbits shall be null and void in law," and "that game shall be protected by the law of trespass and the same laws which now protect the occupier's poultry, sheep, &c." Secondly, I am not opposed, nor do I believe it opposed, to the interests of the country that large heads of game may be raised with the view to both profit and sport (call it *batue* shooting, if you like), so long as the occupier

confines the ground game by wire netting or otherwise, and the winged game by feeding and careful keeping to his own occupation. There is no reason why it should not be made profitable, afford excellent sport, and injure nobody. Assuming, however, that game shall be protected by the same means as farmyard fowls, ducks, &c., this will, no doubt, involve the repeal of the Game Laws as at present existing. Be it so. No doubt there might be some who would say that they could not move in the matter of these contracts without the interference of Parliament. I want you to notice that I have alluded to this, and that we have already instances where the Government have interfered. Look at the shipping employed in former years to carry emigrants to foreign countries. They made it compulsory that there should be sufficient accommodation for each emigrant, and thus interfered in the contract which had been made between the shipping agents and the emigrants themselves. Did not the legislature interfere in the Factory Act, whereby they said that persons should work so many hours per week and no more, thereby interfering with a contract that was made between man and man? Then, again, I might point to the Elementary Education Act, for the education of the children of the labourer, and which is very likely to work injurious to the labouring man in one way, as it will compel a man to give up his children—the bread earners, who are sometimes of such importance to him in that respect; by legislation they will compel that man to give up his children for so many years in order that they may be educated. That is an interference between a contract—between man and man. Look, again, at the many clauses in the Irish Land Bill which interfere with the contracts between man and man; but yet how much good do we see done by such a proposal. With regard to the letting of game, it will be of very little consequence to the large landed proprietor, because he can take 400,000 or 500,000 acres of the estate, and have a good preservation of game, and then let off the rest of his farm free of it; but it is not so with the small proprietor, and there are several members of the Club who happen to be so situated. My proposal would deal rather heavily with the small landlord, inasmuch as by letting off the land, he would be obliged to forego the sporting. He would have to do that by law; but what I think is, that landlords may make a previous arrangement with their tenants whereby they might have a right to kill the game in question equally with the tenant, and I do not hesitate to say that such an understanding would more firmly bind together the landlord and tenant in the bonds of friendship than all the laws in this country. This is my justification for the proposals I have made to you. These are my opinions, and, although I now stand alone, perhaps the time will come when others will join me more friendly than they might now. However, it is my opinion, and I claim the right to express it. Local taxation, as now collected, must be considered so unfair in its pressure upon landed property, that, whether we view it as a landlord's or tenant's charge, it is alike adverse to the welfare and progress of agriculture. This subject has recently and still continues to attract the attention of Chambers of Agriculture and Farmers' Clubs; but I have in no instance seen the subject better handled than it was recently by Sir George Jenkinson, the member for North Wilts, at the meeting of the Kingscote Club, and in the course of his observations, he refers to the report of a committee of the House of Lords, which sat in 1850, on parochial assessments, and the sixth resolution of their report says: "That the relief of the poor is a national object, towards which every description of property ought justly to be called upon to contribute, and that the Act of 43rd Elizabeth, c. 2, contemplated such contribution according to the ability of every inhabitant." Well, the question then arises, why was real property only specified, and why was not other property named at that time, as liable to be rated to the relief of the poor, and sick, and aged, &c.? The answer is obvious. No other property, such as is now designated personal property, or very little at any rate, at that time visibly existed. No funds or railways, or rich iron mines, or other such personal property then existed. All the mass of wealth which is now possessed by the merchant princes of this rich country has gradually arisen since the days when this tax was first imposed. Then why, I ask, as in process of time it did arise, should it not have taken upon its shoulders its fair share of the burdens of the nation? Can any person say that the wealth of the country, no

matter from what source it may arise, ought not to bear its share of the relief of the poor, and sick, and aged; and, still more, that it ought not to contribute to those burdens that are more imperial than local, and, as such, concern every class of the community? As an instance I quote the charges for police, for the gaols, for militia stores, for lunatic asylums, for coroners, and other charges, to say nothing of the charge for maintaining turnpike roads, and soon for the education rate. Who can say that the fundholder is not as much interested in the maintenance of all those institutions I have named—police, gaols, militia, &c.—as the landowner? Now I will refer to some of the great sources of wealth in this country, none of which contribute to the local taxation charges. The following condensed statement will convey an idea of this enormous capital:

Funded and unfunded debt	... ..	£2805,000,000
British railway shares and debentures	...	325,500,000
Indian railway shares held in England	...	26,500,000
Colonial Government securities...	...	16,000,000
Indian Home Bond debt	... ..	6,800,000
London Joint Stock banks...	... ..	15,500,000
Irish and Scotch banks	... ..	12,750,000
Bank Stock...	... ..	14,500,000
Insurance companies	... ..	15,000,000
Mines—British and foreign	... ..	10,000,000
Steam companies	... ..	5,000,000
Telegraphic companies	... ..	9,000,000
Docks, canals, waterworks, bridges, &c.	...	20,500,000
Gas companies	... ..	6,700,000
		<hr/>
		£1,288,750,000

In addition to this immense amount of property, I am of opinion that all Government property (dockyards, &c.) ought to be rated. The extraordinary increase of poor rates within the last few years is beginning to take effect on public opinion. Hence its being taken up by the chambers of agriculture, and hence our naming of it to-day. The increase, having been something like three millions annually, is all heaped upon land and house property, the income on which has been estimated at ninety millions; whereas the income assessed by the income-tax, and which is only half the real income of the country, is nearly four hundred millions; so that, in case the property and income of the country were fairly assessed, the rates would be about one-fourth of what they are now. With regard to land let us look at the last thirty years, and see what has happened with regard to it. I wish to know why the owners of funded property should not be called upon to pay taxes in the same way as houses and land? Why, if we look at the newspapers, we find that banking companies in this country, or some of them, pay 15 or 20 per cent., and I want to know—and I confess I think that some of you will go with me—whether it is right for a great man to be receiving that high rate of interest, to be sitting down in his easy-chair, and enjoying his *otium cum dignitate*, without paying out of it one farthing to the local taxation of this country. I believe, if you all put your shoulders to the wheel and work in the right direction, we shall not see the burdens placed so unfairly as they are now. Insufficiency of capital employed is probably the greatest of all obstacles to progressive agriculture, but still it would be difficult to lay down any rule as to the amount of money per acre required to farm to the best advantage, because some districts require much more than others, owing to the variation of soils and situation. It must, however, be admitted that where capital is wanted great losses often occur. In such cases too little stock, too little manure, too little both of animal and manual labour is available, and, from necessity, the produce also is disposed of at the most unprofitable time—in fact, it may be said that the free-trade idea of buying in the cheapest market and selling in the dearest is very often completely reversed. Land, strictly speaking, is only the medium of production, the capital employed in cultivation being the means to an end, and that in proportion to the judicious outlay of money the productions of the soil yield profit or loss. I may also trace to the same cause the want of a well-bred stock of horses, cattle, sheep, swine, &c., which still impedes agricultural progress to a great extent, for although wonderful improvements have been made during the last twenty years, yet if we go into any market we meet with lots of ill-bred animals for sale which never have, and never can, yield a fair

profit for keeping. I must, however, say that I think there are more bad farmers through want of means than there are for lack of judgment and practical skill. In conclusion I would say that there are many other causes which I could name having a tendency collaterally to impede the progress of agriculture, but I forbear, in the hope that other members will take them up in the discussion, which I trust will follow the reading of this paper. I beg to suggest that Mr. Sutton should take up the subject of the loss and waste of the force of cultivation of the land through the bad construction of the implements used. We have to trust ourselves to the manure sellers, and I should be pleased to hear our worthy secretary make a few observations with regard to it, for I cannot but admit that the farmers are very often the dupes of the manure merchants, and only find out that it is bad manure after they have lost their crops. I will leave the matter in the hands of the chairman, who will no doubt call upon gentlemen who are able to supply the omissions I have made in this paper.

Mr. G. GATER said Mr. Blundell, if he understood him aright, wanted to show that the market gardeners had done harm by taking away a deal of the country.

The CHAIRMAN: No, what he wishes to show is that buildings and such like in the towns have driven the market gardeners farther out into the country.

Mr. GATER could not quite understand how it was that Mr. Blundell made it appear that the property he had mentioned paid no taxes, which were paid almost exclusively by houses and land according to his theory. All he (Mr. Gater) could say was that he had got property of every description, and it all paid taxes in one way or the other. Funded property paid the income-tax, and therefore he could not understand how Mr. Blundell could say that houses and land paid all the burdens. It might be, however, that funded property did not pay its proper proportion.

The CHAIRMAN explained that Mr. Blundell was only speaking of local and not imperial taxation. He had alluded to that which escaped local taxation.

Mr. GATER: Every man who has property pays something, but whether he pays enough or not I do not know.

Mr. JAMES WITHERS entirely concurred with Mr. Blundell in the idea he had brought forward; indeed he and Mr. Blundell's ideas were the self same. He had thought over some of the impediments to agricultural progress, and which he would repeat to them. There were many impediments to which the landlord and tenant might both plead guilty. There were some things which the landlord thinks he has nothing to do with, and the same with regard to the tenant. One thing was they wanted more convenient farm buildings, and among them labourers' cottages was not the least. He was very badly off indeed with them himself. Then they could not remove timber, also hedges and hedgerows. He could speak of these things because he suffered from them. Then there were short and imperfect leases, and these were impediments to agricultural progress. A great deal depended on the way in which the leases were drawn, for he had known cases where they had been very detrimental to the occupier, and of no benefit to the owner. Some leases were so binding that the tenant was confined to a circle, just like a circus horse running round the ring, and thus all his power of extension was crippled. Then land suffered much at the end of a lease where there was no compensation for unexhausted or permanent improvements, and this was a very great clog to agricultural progress. Then they had not a just law with regard to Tenant Right, and if it was right to make an alteration in Ireland he also thought it was but fair and just to England that an alteration should also be made for the benefit of the English agriculturist.

Mr. JOHN GARRA thought many thanks were due to Mr. Blundell for his excellent paper. There was one point in it which struck his attention more than anything else, and one on which they might found a resolution. It was that part where he alluded to the insufficiency of capital employed, and this concerned both the landlord and the tenant. Taking the landlords first, he really thought there were many cases where they were not masters of their own. They saw that many estates were so encumbered as to be almost entirely out of the hands of the owners, and in such cases the owners declined to do anything for the benefit of the community. Then they had another case—where the estates were heavily mortgaged. He thought they wanted some alteration in the law of

mortgages, for now a man went and mortgaged his estate privately, not wishing it to be known what he had done, whereas if he had the power he might be inclined to sell it, or deal with it better than he otherwise could.

Mr. BLUNDELL: I suppose you would say that greater facilities should be given for the transfer of land, and that the conveyance should be made more simple?

Mr. GATER was of opinion that a little more advantage should be taken of Lord Westbury's Act of Parliamentary Title. It was very simple, and as it proved of large benefit to the community he could not understand why it had not been brought more into use. If everyone enfranchised their property the work of the lawyers would be very much less. It had been done in several cases with success, and it could be done more easily than some people imagined. With regard to leases he could not go with all Mr. Blundell had said. He thought he had spoken on one side—the tenants'—of the question. He thought much fault rested on the tenants' side as well as the landlords'. It seemed to him that if a tenant was willing to give an increased rent for a long lease, there would be plenty of landlords willing to grant them. He would ask Mr. Blundell whether, as a rule, there were parties who were willing to give an increased rent where long leases were offered. They could not expect that owners would go out of their way and grant leases for ten, fifteen, or twenty-one years, at a low rate; for during that time they would be debarred from taking advantage of any rise there might be in the value of land. If tenants were willing to give an increased rent for long leases, he could not help thinking that gentlemen would grant them; and if they would not give more for them they were not entitled to have them. The cottages for agricultural labourers was a matter of very great importance. Mr. Blundell had truly said that they took care of the animals, that they had nice buildings, well drained and ventilated, and everything to make them comfortable; but the labourer and his family were crowded together in a small house. They caused him to sleep in small rooms, with a very few cubic feet of air to breathe, and he went to work the next morning with his physical wants so neglected that he could not do his work properly. Therefore the farmer was deprived of much of his labour, and this was one of the impediments to agricultural progress. It seemed to him that there were many questions which the tenants could settle themselves. The advantages of draining were now so well known, and had been so often alluded to, that he would not now dilate upon them. There was a large quantity of land in every county which could not be properly cultivated without being well drained. If the occupiers were willing to come forward and pay a fair percentage on the drainage—for they must remember that drains would not last for ever, that a new system might come into operation, and that a new tenant might not like what had been done before—if they would pay a fair percentage for the draining, he thought landlords would be willing to meet them. The question of timber, hedges, and wood in hedgerows, was one which might come under the inquiry as to whether a man had a right to do as he liked with his property. It was often the case where a man had the inclination to remove these things he had not the power, and often when he had the right he had not the will to do so. The question of game was a very old subject, and one which had been pretty well ventilated there. Mr. Blundell said in his paper that he would make any agreement between landlord and tenant as to game illegal. He also went on to say that small occupiers should lose their game, but he afterwards recommended that they should make some sort of contract with the tenant afterwards.

Mr. BLUNDELL: I beg your pardon. What I say is, that the agreement with regard to the reservation of the game should be null and void.

Mr. GATER: Then I would ask you in what way the small proprietor could enjoy his sport?

Mr. BLUNDELL: He could enjoy it in what way he thinks proper on his own land.

Mr. GATER: But if you say the small proprietor shall not be able to make a contract with his tenant, how will he be able to enjoy his sport?

Mr. BLUNDELL replied that, seeing gentlemen like the Mr. Gaters around him he would remind them that what he said was that he would have any agreement between landlords and their tenants as to game reservation null and void in law, but that they might come to an understanding among themselves

in a spirit of friendliness, so that both might enjoy the game, and he believed it would cause that spirit of friendship to exist between them and the best bond of union that could ever be made.

The CHAIRMAN explained that Mr. Blundell did not mean that there should be a written agreement, but merely an understanding between them as to the right of sporting.

Mr. GATER said it appeared to him that Mr. Blundell's paper put the saddle on the other horse. He would make the game the property of the tenant, and then allow the landlord to get it back.

The CHAIRMAN: Yea, but he would have no right to it, as there would be no written agreement. He recommends that a proper understanding should be come to between them.

Mr. GATER considered it would still be making a contract, only in another way. At present the game by law was the property of the tenant; all the power was vested in him, and he did not think that any legislation was wanted on the subject.

A MEMBER: I think it is wanted for the benefit of the nation.

Mr. GATER continued: Mr. Blundell had taken up emigration and the Factory Acts, but he did not think that they would say agriculturists were the same sort of people. He thought they had more power of taking care of themselves than the others had. The next part of Mr. Blundell's paper to which his attention had been directed was that with regard to local taxation, and he felt there was much that might be said on that point. With regard to Government properties he thought they ought to be rated, and for this reason—that many districts were altogether free from them, while there were others which had a large portion. Where the Government property was there was sure to be poor people and distress, and other parts had nothing of this. These places were for the benefit of the country, and ought therefore to be rated, and he believed the present Government contemplated something of this sort. He did not think there would be anything to complain of in that respect that time next year. With regard to railways, colonial and Government securities, railway and telegraph companies, &c., these were rated to everything that land and houses were rated to. They were rated to everything that agriculture was rated for, and in nine cases out of ten far beyond what they ought to be. With regard to joint-stock banks and shipping Mr. Blundell's argument might have weight, but at the same time they must remember that the capital of joint-stock banks was mainly employed in works which paid local taxation, and it was a great question whether, if they were rated, the value of money would not rise, and thus men who wanted to borrow money for the purpose of carrying out works would have to pay a higher per centage. He now came again to the insufficiency of capital employed, which was really at the bottom of all their grievances, and he had no doubt a resolution dealing with it would be submitted before the close of the discussion.

Mr. SPOONER did not think they could complain of the want of latitude for discussion. He thought Mr. Blundell's paper was quite copious enough, and that he had given himself plenty of rope. It almost reminded him of the advice a father gave to his son in the very ancient days, when bows and arrows were almost the only instruments used in warfare. The father said to his son, "John, whatever you do aim high enough. You may not hit the sun, but your arrow will reach higher than if sent along the surface." In these days of firearms it was no use to pull the trigger without they covered the mark. He thought if the paper had been a little more direct in its aim, and it had not fired so largely, it might have brought down more game. Perhaps his friend was following the weapon which had lately been brought into use, but which was not very effective—viz., the mitrailleuse—the efficacy of which seemed to be in the firing off of an infinite number of balls in the hope that there would be a chance of bringing something down. He thought it would be better to refer to the different heads of the paper. He agreed with Mr. Blundell with regard to leases and agreements, and he thought there should be two modes of dealing with them. There should be leases for a term of years, and there should also be annual lettings, with something like two years' notice to quit, and compensation for improvements. They had one system in one part, and one in another. In Norfolk one system

prevailed, and in Lincolnshire another, and in the latter place every one seemed satisfied without a lease. He thought that both plans were equally good, and that a better arrangement might be made than now existed. Passing to the subject of agricultural land, it was very true that much of it had necessarily been taken up by railways and the extension of towns. As he understood Mr. Blundell, he did not mean to say one word of complaint about the market gardeners taking up the land in the country, but he did it in order to show that large amounts of land which had formerly been used by them had been taken up by railways and other things, and that land which was now uncultivated should be brought into use to supply its place. At the same time they as an agricultural club could not help looking at and giving their discountenance to such a proposal as was promulgated at a public meeting the other day with regard to the New Forest. The very idea that the neighbouring forest should be cut up into 8,000 farms of ten acres to each person should be at once set aside. They said that it should not be let or sold to any men of capital, but that it should be let on long leases to people who had none, and that the Government should advance money to those people without any security whatever. This was quite opposed to sound doctrine and common sense, and totally destructive to good government. Would not the nation have good reason to complain when the Government came to them, after these people had failed to report the bad debts? The people have had the money; they gave no security, and the Government could only go to the country and say "Thank us for what we have done." Was that at all likely or possible? ("No, no"). There were people who had some money to put out, and let them see whether it was likely they would do it without security. A person at present had a certain per-centage for his money, the higher according to the risk, and it was not likely that the Government would deal with these people different to what they would with others. Such a scheme was not likely to benefit the poor man. What they wanted was men with plenty of money, large merchants or others who had retired from business, and who wished to have something to do with land, who would lay out money in employing the labour around them, who would live in the midst of them, deal with the shopkeepers in the towns around them, and who would spend much with them. These were the men who were most likely to benefit the community at large, and to advance the prosperity of the various towns near where they resided. A man would be more benefited by having labour and money given to him than by holding ten acres of land and living upon them, for he would not be so well off as a tailor or a shoemaker with his pound per week. The reason why a small farmer could make it answer was because he had employment for his teams at other places besides his farm. Consequently by these means he could do what was to be done on his farm, and by great industry he was enabled to do other work elsewhere which enabled him to pay his way. A resolution passed at that meeting, and a very injudicious one, was to the effect that no portion of the property should be allowed to get into private hands. Instead of this he would recommend that the land should be so placed, and others could if they pleased then let out in lots of one, five or ten acres, to other parties. It would be far better done in this way than by the Government. Passing to the subject of game, he might say he could not quite agree with Mr. Blundell's remedy. It was urged that there was nothing to be remedied, as the law said that the game belonged to the occupier, but then in came the landlord, who said the game is mine, the law allows it, and that he should reserve to himself the right to shoot it. It certainly ought to belong to one or the other. It should not be a question to be decided between the two. He could not agree with Mr. Blundell, who said that the game should be the property of the tenant, and that there should be no power to make an agreement, because that would deprive the landlord of his sport, for he liked the landlords to enjoy their proper field sports, because he thought they tended to the promotion of health, and would make a man more hardy and better prepared to defend his own country in the time of need than if he had no out-door amusements. He thought the remedy was a simple one, but at the same time they could not do without some law. He felt that the ground game—the hares and rabbits—should belong to the tenant without any power of reservation whatever, without the landlord being able to make an agreement to retain them as his property,

while the winged game should belong to the landlord, and there would be nothing to prevent his shooting where he liked if a proper understanding was come to. He thought that was all they were likely to get during the next ten years, and that the agriculturists should use all the means in their power to gain it, as he believed this was the only point where they would meet with success. With regard to local taxation, he thought that they should take up the matter more than they did. He could not see why the poor rate should not be divided between the landlord and tenant. Let the tenant pay it, and deduct half out of his rent. The result would be that the landlord would have a greater interest in keeping it down. They now found they had good roads, and the tenants paid for them. All the owners had to do in places was to pay the turnpike, and the tenant had to do the same as well as pay the highway rates. Why did not Sir George Jenkinson and the Devonshire baronet get up in Parliament and object to the tenant being burdened any more? Why did they not say he was already burdened enough when Parliament passed the unjust highway and education rates? Education was a very good thing, he had not one word to say against it, but there was no reason why the tenant should pay for it entirely. Why were not those hon. baronets not there to oppose it? Instead of that they went hammering at the gates of Parliament in favour of a scheme to levy poor rates on income of all kinds. He was not given to prophecy, but he would prophesy that for another ten years such a scheme would not be granted. He thought that such a plan would increase their taxation, and should not have been proposed, and they should not have allowed such things to be put in the poor rate. The cost of education, the police, and lunatic asylums should be removed from the poor rate and put on the consolidated fund. Farmers would get more relief by these means than they would from any others, and they should agitate in this direction. He saw that Mr. Blundell had mentioned property in India. These Indian shares, or many of them, were held in England. But what did it matter where they were held? The property was in India. Was it just that because people came to live in England that they should tax them for coming here to live? (Mr. Blundell: The tax could be abated then.) He thought that was a very queer idea, and he could tell them that if they taxed funded property it would go down a large per cent. It was not property, but a debt—the money was gone, and if they proposed to tax it he was sure there was not a Chancellor of the Exchequer, either on one side or the other, who would allow funded property to be tampered with in such a way. He agreed with Mr. G. Gater, that this property was taxed one way or the other. There were men who had large incomes, and some of this was derived from house property and property of that description. If they compared houses and land they would find that the houses paid the largest share of local taxation. House owners who did not complain paid sixty-five millions, and landed property about fifty millions. If he had spoken rather freely on some points it was because he thought the agriculturist should be alive and insist upon something being done, and that many local taxes which now pressed so heavily on them ought to be borne by the country at large, and should be placed on the consolidated fund. He thought if more capital was employed more land would be under cultivation, and the consequence would be that more labour would be employed. It was only a short time ago that at a public dinner the chairman advised all farmers to buy their seeds, manure, cake, and other things in London. He advised them to go to a co-operative store, where they would be expected to pay cash for their goods, as the store had no capital beyond what was necessary to pay a clerk and those who assisted there. The result of this would be to take the capital out of their hands, and, instead of credit being given, as was now the case, and the money laid out on the land, it would be taken from them, and it would deprive farmers of getting that capital which they now obtained under the name of credit. Why should the farmer be obliged to pay cash for his goods for the benefit of others while other classes were enabled to obtain credit, and why should he do that which would compel him to go without that which would enable him to make his farm productive? He considered that agriculturists had a right to share the many millions of pounds of capital invested in his wants as any others. Before he sat down he must say that he thought their thanks were due to Mr. Blundell for the excellent paper

he had read to them. It had had some hard rubbing, but he thought that it would tend to give him a still brighter polish if it had a little rubbing.

Mr. SUTTON said there was no doubt that hedgerows were a bar to steam cultivation, and he could say that steam cultivation had been beneficial, as he had seen its effects in the late drought. Where steam had been used the crops were better than where the ground was ploughed to a light depth. He thought that the insufficiency of capital at command prevented many agriculturists from adopting steam cultivation, and he was quite sure there were numbers who would do so if they had the money to carry it out.

Mr. JAMES WITHERS could not see why the landed and house property should be called upon to pay the local taxes and the bounded property go Scot free. He still considered the taxes were very unfair towards the tenant and the landowner.

Mr. EKLESS, although he had not been among them lately, was pleased with what he had heard that day. He agreed with many things Mr. Blundell had stated in his paper, and several of his suggestions ought to be carried out.

The CHAIRMAN said Mr. Blundell had spoken of the impediments to agricultural progress, and he had spoken in the first place of leases. They all knew that when a person took a farm it was necessary that he should take it on terms which would make him feel that he had an interest in it. He thought they should grant such leases as would make a tenant feel he had an interest in the land, even up to the year of his leaving, but at the present the terms made with regard to quitting were often very unsatisfactory, the landlord thinking he had paid too much for compensation, while the tenant thought he had not got enough. With references to lease he thought those adopted by Mr. Fleming with regard to compensation were as good patterns as they could have, and he thought they could make very satisfactory arrangements under them. He would read Mr. Mechi's views of the impediments to agriculture, some of which were the want of security of tenure, the difficulty in the conveyance of land, the law of entail, the want of good drainage, timber, ground game, the retention of so much land as pasture and as open wastes, and the love for antiquated customs. He (the chairman) thought that much might be done in the way of giving compensation for unexhausted improvements, which would not only prove of advantage to the landlord, but also the incoming tenant. He could not agree with Mr. John Gater with regard to the game, who had said it was all the fault of the occupier if he did not have the game with the land. The landlord said the game belonged to him, while the tenant said under the law it was his property, and while this was the case that law was a perfect mockery. If a tenant did not give up the game he could not have the land, and he could say that there was four-fifths of the farms which could not be got without the right to the game being reserved to the owner. The law in these matters was unsatisfactory, and must be altered sooner or later. Reference had been made to the land in Ireland. That was allowed to go on for a certain time in the old way, but at last it was found that it could not remain so any longer, and an alteration was made. The game question was getting into such a state that he thought they should ask the Legislature to step in and remedy it. He had been reading the discussion at the Scottish Chamber of Agriculture on this subject, and they had come to the resolution that hares and rabbits should be expunged from the game list. He thought it very unfair that Government property should not be rated. They saw many men leave the country places, and, with their wives and families, go to Portsmouth and other towns where there were Government works. If they became ill or were in distress they became chargeable to the place where they were, and he therefore thought all Government property should be rated. He could not agree with all Mr. Spooner had said with regard to local taxation. He thought this concerned the whole country at large, and that all should pay; and whether they received their twenty per cent. from the banks or their three per cent. only from the funds, parties would still be found to invest. There were some people who said that the landlord paid the poor rates, but he could not agree with them. He did not think the landlord paid them. The only thing he paid was the property tax. If they signed an agreement it was that the tenant paid all the rates, the property tax excepted. It was useless for the farmer to say that he paid all the taxes

his labourer paid in the shape of the beer he drank. It was the consumer who paid. Tithes were quite a different thing to poor rates, as they were settled.

Mr. BLUNDELL, in reply, said he thought that nearly all the members who had spoken fell in with his view with regard to the leases. Some gentlemen had said that there were gentlemen who could not do as they wished with their land because of the limited means at their disposal. That might arise from various causes, from the land being entailed, but that might be met by their having a loan to improve the property, to be spread over a period of twenty-five years. If landlords and tenants would only bind together they might do that which was advantageous to both, but if there were some who would not take the advice of practical men they must be allowed to go on in their blindness. He could not give up his ideas with regard to game, and he would have no half-and-half measures. Their secretary, as he was pleased to say he always did, threw some oil on the troubled waters, but he could assure them the oil he had thrown upon that subject had had no effect upon him. Mr. Spooner's observations went to recommend a compromise. As long as he (Mr. Blundell) had a voice to raise he would use all the means in his power to benefit the tenantry of this country. He was not one of those who would do away with the game. Had he not shown them how they could make a toy of it, how they could have *battue* shooting if they choose, and how they could make a profit out of it if they liked? What he was opposed to was the power

for the game to be reserved to the landlord. With regard to local taxation, he did not see why property which was paying large dividends should be allowed to go scot free, and he agreed with Mr. Spooner that the charges for lunatic asylums, the police, and such like, should be paid from the consolidated fund. Some of his arguments might appear hopeless to them, but he could tell them that he did not despair, and that he never allowed such a word as hopeless to enter into his dictionary.

On the motion of Mr. SPOONER the following resolutions were put and carried:

That amongst the various impediments which prevent the more effective and successful cultivation of land the following stand prominent—

1. The absence of leases, or agreements provided with two years' notice and compensation for tenants' improvements and outlay on unexhausted manures, on quitting.

2. The very unsatisfactory laws and customs relating to game, whereby the control of ground game is taken out of the hands of the tenant.

3. The difficulties, obstructions, and expense attending the transfer of land.

4. The non-reclamation of waste lands.

5. The want of sufficient capital on the part of the tenant, and protection for the same.

6. The heavy and increasing pressure of local taxation.

A vote of thanks was passed to Mr. Blundell for his paper.

TURNPIKE-ROADS AND HIGHWAYS.

At a meeting of the Hampshire Chamber of Agriculture, Mr. W. W. B. Beach, M.P., in the chair,

Mr. J. TRASK, of Northington, said: In again opening a discussion on "The Future Maintenance of Turnpike Roads and Highways" before this Chamber, I shall commence by saying that I purpose more particularly to consider to-day the question of highways and highway districts, the subject of turnpike trusts having been more particularly considered last year at Alton, and a resolution passed thereon, viz.—"That the Chamber is of opinion that no legislation on the subject of turnpike trusts can be satisfactory which is based on the exclusive rating of real property;" a resolution on the subject of highways having been left over for another meeting. I have not thought it worth while to recapitulate the statistics or to use the same remarks as I made last year on the subject of turnpike trusts, as a copy of that discussion has been sent to every member of the Chamber, and I do not know that there are any fresh statistics of importance to introduce. I see that the Home Secretary on the 13th February said in the House of Commons, in answer to Mr. Whalley, "that the usual Turnpike Continuance Bill would be introduced this session. The Act of last session would secure the abolition of more trusts than usual, and, in order to facilitate the ultimate abolition of all turnpike tolls, it was the intention of the Government to introduce a Bill making the Highway Act compulsory." From this answer I think we may pretty nearly gather what the intention of the Government is with regard to the future maintenance of all highways; I say all highways, for, on the ultimate abolition of turnpike trusts, turnpike roads will belong to the same category as the ordinary highways of the country. I gather that it is contemplated to make the Highway Acts of 1862 and 1864 compulsory throughout the kingdom, and that the expense of maintaining the whole of the highways within a highway district will be thrown on the common fund of that district, leaving the heavy expense which in some districts would be incurred by the abolition of turnpike trusts to be borne entirely by those on whom the present assessment for highway purposes is, through the so-called poor's-rate, now levied; for I do not find any intimation that it is the intention of the Government to propose to amend the present basis of assessment. Seeing that the Highway Act is about to be made compulsory, and that the provisions of that Act are likely to be those on whose basis future legislation will be attempted, I have thought it worth while to examine the recently printed statements of receipts and expenditure from several highway districts in this county, and I have been

considerably surprised to find that the cost per mile in the several highway districts so much varies and apparently without sufficient reason. In one highway district (Stockbridge) I find the cost to under £4 per mile, and in another (Basingstoke) to be £8 per mile. I know that in this latter district the cost of getting material in some of the parishes is great, but I can hardly bring myself to believe that that fact alone can make so great a difference. I should rather be inclined to think that much of the credit which I think is due to the management of the Stockbridge district may be attributed to the fact that as much as possible of the repair of the roads in that district is, I believe, done by contract. In getting from one highway district to another throughout the county I cannot but see that the difference in the road management is very perceptible, that difference, of course, arising from the varying mode of management by the surveyor; and I do not, as a rule, find that, in accordance with the greater amount per mile expended, so is the good result obtained. I know a highway district in this county, in getting into which one finds stones laid on the roads nearly all the year round, and, of course, kicked into the ditch during the summer, these stones being laid on about the size of a cricket ball, and those particular kinds of repairs which should be done at the end of autumn being begun about January. I believe, also, that a considerable proportion of the men employed in this district are men nearly worn out, and that they receive about one-third more than they would be worth to the farmer. The cost per mile in this district nearly approaches to that of Basingstoke, but with a far greater plenitude of material. The surveyor has a good salary, does not appear to be an extensive personage, and I believe that the average attendance of waywardens at the various board meetings does not exceed four. I have also recently been informed that in a highway district in a nearly adjoining county the surveyor keeps one or more donkey-carts, marked with the initials of the highway district, avowedly for the purpose of more easily laying on of the materials, but sometimes, I am told, they have been used for taking home some of the hands employed when too drunk in any other way to get there. I believe the surveyor in this instance is a considerable personage, and the waywardens congregate about four times a year. I know it is far more easy to pick faults than, even in such cases as these, to suggest sufficient remedies, but this I much fear—that, when the expenses of the highway district are thrown on the common fund of that district, the already too spare attendance will be

less, and the surveyor will be, on that account, more prodigal in his expenditure, knowing, too, as we all must know, that there is hardly any management so keen and sharp as when there is a personal interest involved. I say again, as I said at Alton, that wherever the highway district has not been too large, with a practical sharp man as surveyor, and the waywardens attending well to the business of their respective parishes at the various meeting of the highway board, I think the Act has worked well, and the expense has only been commensurate with the improved condition of the roads; but when either of the above rules has not been thoroughly attended to, I think, generally, the expense has been greater than would otherwise have been the case. I see that on the agenda paper of the meeting of the Central Chamber of Agriculture for March 7th, there is a notice of a motion to be proposed by Mr. Genge Andrews as follows: "That, in the opinion of this council, good roads cheapen commodities to the consumer, benefit all classes, especially employers of capital and labour, and secure to the public rights of user practically unlimited; and that, therefore, highways should not continue to be a charge on real property only through the poor-rate assessment." It may be interesting to remark here that personal property formerly, for nearly two centuries, did contribute to the expenses of maintaining the highways of the kingdom. The statute of the 18th Elizabeth is the first to recognise this duty: from that time until the 7th George III., chap. 42, the assessment for highway rates was not to exceed 6d. in the pound on the yearly value of lands and houses, or 6d. in £20 on personal estate; from the year 1766 the burden has been wholly imposed upon and borne by assessments on lands and houses. It must be patent to every one that when the turnpike gates are removed many persons who derive very great benefit from the roads, and who have hitherto contributed in the shape of tolls, in the exact proportion to their use of the roads, would no longer assist in maintaining them at all, or only to a very small and unappreciable degree, such men, for example, as coal and timber hauliers, carriers, hawkers, and those who keep horses solely to contract for carting work of all descriptions, all of whom are liable to be assessed for highway purposes merely on cottages and, it may be, small plots of land, generally not exceeding £15 per annum in value. Now that the ultimate abolition of turnpike trusts can only be looked upon as a question of time, and no very long time, and that it seems probable that the cost of maintaining the many thousands of miles of turnpikes in the country will be thrown on the common fund of the highway district through which they pass, will it not be considered that it is the duty of the Legislature to find out some other way in which those heavy expenses should be met other than by the occupiers of real property. I may here mention that the chairman of a highway board in Kent told me the other day that the expense thus thrown on that highway district would increase the whole expense by about one-third. I have not the least doubt that similar results will be found in other parts of the kingdom; we, luckily, are somewhat better off. The question of whether or not it be fair that the great number of persons engaged in trade and commerce should be freed from any payment whatever, in their exemption of tolls from contributing as they before have done to the repairing of turnpikes, when they use the highways equally with and often with heavier loads than the occupiers of lands, will, I think, hardly admit of argument; without any doubt, they derive as much advantage as the occupiers of lands who pay the rates for maintaining the highways. I have met with various suggestions as to the future mode of maintaining all highways. It has been suggested that a tax should be imposed upon every vehicle and every horse, paying the amount into a separate exchequer, to be used entirely for maintaining the highways. I fancy the cost of collection here would be nearly as great as in the case of tolls, and I fear a heavy tax would be necessary to raise a sufficient sum. A county rate has also been suggested; it was, however, negatived by the committee of the House of Commons which sat in 1864. I am inclined myself to think that a county rate, together with a borough rate levied on all available property throughout the county, may be made to work well. Good roads are absolutely necessary for the comfort and convenience of everyone. They are also a necessity for everyone. Everyone, therefore, should be called upon to pay a share of the expenses of maintaining them, according to his ability. I have now said what I hope will be enough to raise a

good discussion. I am aware I have said what I have said very imperfectly; but I have no doubt that the ability displayed in the discussion that will ensue will make up for the shortcomings in these opening remarks.

Mr. REEVES (Chairman of the Stockbridge district) said that Mr. Trask had cited that district as being one of the least costly for roads, and that was probably owing to the roads having been in good condition before the present Act came into operation. Materials, too, could be easily had, for everything could be obtained near at hand; and by employing a good surveyor, another advantage resulted, so that it had cost the inhabitants less in that district than in some others. Respecting contract-work, they certainly had tried it; but it proved a failure, and now there was no contract-work done for any of the parishes—and they were keeping their roads in repair quite as cheap as by contract, and equally satisfactorily to the community at large. With respect to Mr. Trask's statements as to the maintenance of roads, he thought every one who used the roads, ought in justice to help pay the expenses. It was a heavy tax. Many people paid rates simply for houses for the purposes of residence; still, they drove about the country, perhaps more than an agriculturist like himself and his family; and yet he must pay, whilst they went almost scot-free. He thought they must get a remedy, in some shape or other, for all their taxes. They should have a national tax for the poor-rates and other charges, and he hoped he should live to see the day when that would come to pass; for it was nothing more than fair and right. Mr. Trask disapproved of old people being employed, and such had been much discarded in their union, their surveyor having full power to employ what labour he pleased. As regarded his own parish (King Somborne) they had spent on the old system £150 a-year, and when his father was a guardian, his argument was, if the old people were employed on the roads, they would earn a little, which would relieve to some extent the Board; but now, with Union Assessment, it was a very different thing, and the wisest plan was to employ the best labour that could be obtained.

Mr. EASTON felt that great changes were looming in the future, and it was not for them, as agriculturists, to sit still, but they must anticipate how roads were to be maintained when the present turnpikes were abolished. It was quite certain that agriculturists did not wish to meet this question with an antagonistic feeling to any other part of the community. The roads, however, were a national benefit, and therefore national property should contribute towards their maintenance. In this proposition he thought there was nothing that could be called sordid or in any way found fault with as unfair, and if they did not hold meetings such as the present, at which agriculturists could express their opinions, it might be considered they were perfectly indifferent as to the expenses thrown upon them; and, therefore, as in the case of the ass, the heavier the load heaped upon them, with the greater facility would they carry their burden. Farmers inquired what good was to be obtained in attending certain meetings. It was only a question (they said) of rent. There might be some reason for this, but at the same time there was a certain injustice in it. As a question of rent it was certainly unfair, he thought, that persons who bought property, say at 10, 30, or 50 years' purchase, and when all these changes had taken place during that time that the interests of those persons who thus invested money and capital upon certain guarantees should be disregarded. With respect to the future maintenance of highways, he felt that meetings of the character now being held were beneficial, for it gave agriculturists an opportunity of expressing their ideas upon a subject which would afford their legislators something to work upon in a different place. Mr. Trask had made a comparison between the expenditure of different highway boards in Hampshire, and Stockbridge had been cited as a very well managed district, the expenditure being under £4 a mile. Of the Basingstoke Board he was himself a member, and therefore he would more particularly allude to it. He thought the figures he had quoted were a little too high for Basingstoke.

Mr. TRASK said he had obtained them for last year from the clerk of the Board.

Mr. EASTON said the Board had very much improved the state of the roads, and there was only a slight difference in the expenditure for the past three years. In North Waltham it was 1½d. per mile.

Mr. TRASK said he had put it down at 1½d. per mile.

Mr. EASTON replied that that would make his case still better. With respect to the employment of aged people, he held rather different opinions from Mr. Trask and Mr. Reeves. If a certain portion of the aged poor could be employed in breaking stones at a certain price which the board allowed, it could do wrong to no one. If they employed younger persons they would have to give the same price.

Mr. REEVES: That would be task work.

Mr. EASTON: Yes it would be, and if aged people can earn something why should they not? The employment is amusement for them in fact, and I see no reason why they should not be so engaged, and thus relieve the rates.

Mr. GODWIN spoke of the Stockbridge union under the old system. They used to appoint persons in the parish in rotation as way-wardens, and the expenditure amounted at that time to a sixpenny rate, which was always expended. Nevertheless the roads were so bad that it became absolutely necessary upon complaints being made, to improve them. A consultation was held, and the chief ratepayer was induced, under certain conditions, to take the management, but he would not employ any old persons simply for the purpose of saving them from the union at the cost of the roads. Another ratepayer offered to serve with him in collecting the rates. A proper person was selected to look after the roads, who had previously held a similar employment, and he was directed to make the roads his peculiar charge. Whenever he saw a spot requiring repairs, and materials could be collected, he was always to attend to it forthwith. Being under the old system, the farmers did the cartage. The result was that the sixpenny rate at the end of the year was reduced from £63 or £64 to £18, the road surveyor receiving the thanks of the board for the saving and improvement effected. This system, he believed, continued four or five years, and the charge never exceeded £31. It must be self-evident that the operation of the Act must have been greatly affected by the state of the roads in the several districts previous to it becoming law, because where the roads were in a bad state and had to be re-made the cost must have been much greater. The public had acquired a right only of user over the roads, and so long as they were under the present tenure and were kept in good order it was the utmost they had a right to demand, leaving those whose business it was to repair them to find out the cheapest and best way of doing so. He thought the fairest way of maintaining all roads was by tolls levied throughout the country.

Mr. GOODEN said he thought the day was far distant when the total abolition of turnpikes would be effected.

Mr. R. FOWLER, a member of the Stockbridge Board, said he did not think that that Board were entitled to so much credit as had been given them by Mr. Trask, because their roads could bear no comparison with those at Basingstoke. He should like to see all turnpikes abolished, and highways and turnpike roads kept in repair by the Government. Why should the expenses be cast upon the holders of real property? There was not an individual in the country who did not derive benefit from good roads.

Mr. SPOONER remarked that the question was surrounded with difficulties. No one could deny that the system of turnpikes, by which each person using the road paid toll, was a fair one, but the nuisance and annoyance connected with it were great, and turnpikes were no longer consistent with the present condition of society. He agreed with previous speakers—that if the repair of turnpike roads was to be thrown on farmers, on the real property through which they passed, it would be a monstrous shame. On this point they should all pull together, and not allow their attention to be diverted by any possible scheme that might or might not be debated by future Parliaments. Amongst the various schemes proposed for maintaining the roads in future he could see no better plan than that of taxing the horses and carriages which used the roads, and there was no reason whatever why the whole amount now paid in the shape of assessed taxes of this description should not be made over to support all roads. The objection to increase this tax did not exist in principle, but it might in practice—preventing people from keeping those horses and vehicles by which alone they would be liable to pay for the use of the roads. There was some degree of laxity existing in the present system of repairing the roads, which were usually made of about 60 per cent. of flint and 40 of dirt, and the latter in winter was speedily washed away. If the flint were used without the dirt, and properly rolled, the probability was

that the road would last twice or three times as long as it now did. The materials, too, should be prepared a long time beforehand, and he could see no objection to employ old people in preparing the materials. If the latter were kept for twelve months it would be much better, because the rain would wash through and clean them.

The CHAIRMAN observed that there was no doubt the question was a very important one, materially affecting the interests of the country generally, and many discussions had been held upon it, both in Parliament and at various meetings throughout the kingdom, but at present no satisfactory conclusion had been arrived at. With regard to the first part of the question—turnpike roads were, in the first instance, made with a view to further the general interest of the community, and probably at that time no possible mode could have been devised for their construction had persons not been empowered to levy tolls upon the general public; but from time to time these trusts have come to an end, and a gradual process of absorption had been going on by their being omitted from the General Continuance Act. When a trust expired, it could only be continued by being placed by the Home Secretary in the Annual Continuance Turnpike Bill; but the Home Secretary had continually for years past omitted certain trusts from the Act, and therefore those trusts had come to an end. They then became common highways, and the more this process had taken place, the more it added to the difficulty of the case, because those persons who were located in one district would naturally try, if possible, to drive over roads where no tolls existed. The question of the debt was a highly important one, and it could not be treated by that summary process which one gentleman in the body of the room had suggested that day—by repudiation, because they must remember that much of the debt was incurred for imperial purposes. Some of it was borrowed for roads over which the royal mails had the privilege of driving untaxed, and it would not be just to repudiate the debt, seeing, too, that much benefit by this means had accrued to the country. No doubt some of these debts were cast upon roads where there was no possibility of paying them off, and most probably on some of the roads the tolls collected were so small that they scarcely would meet the expenditure. In such instances it might come to a question of compounding, but he hoped the claims in any measure Government might pass of those who had lent money on the security of turnpike roads would be fairly and liberally considered. Every year there was a greater difficulty in dealing with the matter, because every trust when it expired became a highway. The present list of turnpike trusts was materially less than it had once been, and they had to face the question now how these turnpike trusts were to be provided for in any scheme for their future maintenance. It would be a subject of serious consideration how far the present conditions ought to be insisted on, for it would be very unfair to say that the present width requisite for a turnpike road should be considered necessary when it became a highway, and used merely for the purpose of local traffic, as when it was a vehicle for through traffic. Unquestionably it would be most unjust to throw the burden of maintaining a turnpike road, which casually passed through a parish, upon the ratepayers of that particular parish. Then, on what basis should it be established? One plan was to throw the burden of maintenance upon the common fund of a highway district, and if that plan were adopted it would be a very fair arrangement. Another plan was deserving of consideration, and that was how far the rates generally might be divided into several classes. They might have, for instance, roads of an important class, where a certain amount of through traffic went on from place to place, and these might be maintained at the cost of the country generally. They might still have another class, involving roads of a more local character, which might be maintained by a highway district; and they might have roads of a still more local and less important character, simply for parochial purposes, and these could be maintained by the parishes. He would not assert that such a plan would be easy to carry out, because it would involve great difficulty in collection. In his opinion the larger the area over which the rates could be thrown the better it would be.

Mr. GOODEN: On the nation.

The CHAIRMAN could not go to that extent; the roads were not national, and they must have some local management; but whether some contributions should be made from the general purse towards it, he would not undertake to say; but he did

not think the management of the roads could be undertaken by any central authority in the metropolis. During the afternoon, some fault had been found in one or two instances with the surveyors, but the members of the Board held the remedy in their own hands, for those who managed these affairs must look after them, if they wanted to have them managed economically. The Highway Act had been to some extent successful, but it had only been partially adopted throughout the country generally, and he thought it was hardly fair to leave such a question optional. It ought to be made compulsory. They were at first reluctant to adopt it in this county, but since it had been adopted they had no reason to regret having done so. He believed that the management of the roads had been more satisfactory in counties which had adopted it than in those which had not. He trusted the Government would shortly introduce a measure on this subject, because it was urgently needed, and last year they were much pressed to do

so, but they replied that they had no time for its consideration. He hoped, however, the present Session would not pass without a measure on the subject being passed and brought into operation.

Mr. TRASK, in the course of his reply, said Mr. Godwin's observations on the roads referred to what had happened before the Highway Act had been adopted in this county, and it was useless to go backwards. The turnpikes would yet be thrown upon the ratepayers, and as soon as a turnpike lapsed now it became a highway. It was a great injustice that thousands of miles should be thrown for repairs on the owners of real property. He proposed the following resolution: "That inasmuch as the whole community participate in the advantages of public highways, the expenses of the same should be fairly distributed amongst the public generally, and not exclusively levied on real property."

Mr. GODWIN seconded the resolution, which was carried.

DORCHESTER FARMERS' CLUB.

TOP DRESSINGS.

At the monthly meeting Professor BUCKMAN gave a lecture on "Top-Dressing for various Crops, including Pasture Land."

The Professor said that since he had been kindly requested to introduce this subject to the notice of the club, he had felt very curious indeed to ask all the neighbours round him why they put manure upon their land, and he would no doubt astonish the meeting if he gave a quarter of the answers he received. One of the most general replies given was simply, "Because we can't grow plants without it." Now this was no reason at all; there was no principle involved in it; it was only the explanation of a fact. Some said, "It is necessary to do it," and others replied in different ways, but the whole matter resolved itself into this: "We put manure upon our soil simply because it has been done, and all people do it." He wished now to point out to the meeting the principles that had guided his practice in this matter. As a chemist if he took a plant, no matter what it might be, and dried it in a common atmosphere that plant would lose a great quantity of weight, but the weight lost by drying was merely nothing but water. But by-and-by if he took a plant and burnt it he found in the ashes of that plant various chemical ingredients which would be always present, and some of them would be more or less in proportion as the plant had been well grown and cropped. It must strike one as obvious if this be so that there must be materials in plants which they absolutely require, and, as all these substances must be mineral matters, they must be derived from the soil in some way or other. The gaseous matters—that which can be burnt—were all got from the atmosphere, but the mineral materials must be derived from the soil. It therefore followed as a matter of necessity, that if we take a certain quantity of material from plants in the soil we must take from the soil itself those materials which are proved to be absolutely necessary in building up the plant; and we could not go on year after year and season after season growing plants, no matter what they might be, without taking away a quantity of the manurial material, so to speak, that may be in the soil. Another point struck him, which was very interesting as connected with this matter. Suppose we take a plant and eat it ourselves. What occurred in our daily life in the matter of digestion? Simply that decomposition takes place, and while the gaseous matters go to make fat, subserve the functions of respiration, the more solid materials are given off as the *exuvie* of our animal economy. It therefore follows, as every one must see, that the animal *exuvie* are of the greatest possible importance in supplying or giving back those materials which have been taken away in the shape of plants, and it is very curious indeed that this should have been known so well, and should have been so patent to everybody, and yet we should still have gone on wasting these *exuvie* from our own selves, and that feeding upon the best materials which contain the greatest amount of these manurial matters so absolutely necessary for the fertilization of the soil, still from our peculiar process of economy all these should have been

wasted and sent away into sewers, or if they did not find their way there they went into cesspools and places near wells, the matter not only being thus lost or wasted, but often doing much mischief by contaminating with poisonous materials the water we are constantly drinking. If we were to adopt some general principle by which all these matters could be conserved—and he knew of no better plan than the one devised by the Rev. H. Moule's system—he was quite sure they would be enabled to preserve a vast amount of wealth to the country. This was a very important question, and one which he thought might, with a very little trouble, be more generally adopted than it was. He could only say with regard to his own place he had endeavoured to persuade his parishioners to adopt the earth system; but this was something new to them, and people were very slow in adopting anything fresh. If, however, the members of the Club had at all followed what he had been stating they must be convinced that a man by eating so much animal and vegetable matter could only properly digest and take into his own system some of the organic elements connected with that matter, and the inorganic elements must be given away; and as these are capable of building up an organic being, it therefore followed as a matter of necessity that if he be well fed he should be able to support himself to all eternity. The explanation of this was that we did not economise all these materials. This was a most important question to this country. He considered that the land was getting poorer and poorer year by year, notwithstanding the vast importation of artificial manures, simply because the waste was going on at a greater rate than those new materials were brought back, and they might be sure that these new materials would become so scarce that we must be taught some painful lessons in economy. With regard to the subject of manures, the question of importance to be ascertained respecting the soil is: What is it in any crop we may take away from that soil? What is it we take away? They had not only to ask this question in respect to one crop in particular, but with regard to the next crop, because the succession of crops depended upon the fact that one crop would take one thing and one another. It was, therefore, of importance that agriculturists should understand the principles of chemistry in order to apply them to the cultivation of the soil. At the present time these matters were so generally recognised that it seemed trite on his part to direct their attention to them, but he thought it necessary to point out some facts connected with special manures. Now there was a question which was always brought before one in every shape and form in farming, and that was the question of using manures or making manures by sheep-feeding. Now, with regard to sheep-feeding upon land, what did agriculturists do? As a general rule sheep were placed upon pasture land, probably during the greater part of the day, and folded upon arable at night, the farmer saying that the land could not be bad and that nothing was lost from it, because sheep made manure. He was quite sure no gentleman present believed that sheep made anything upon

land they did not find there, if they had lived all day upon the grass of the field, and nothing else, and if they voided their *exuvie* over that field, and if they made nothing fresh over it; or if it happened, as was often done, that the arable robbed the pasture—that the sheep were put upon pasture by day that they might drop over the arable at night—it was very clear indeed that they must make the pasture poorer and enrich the arable. But because they feed upon the plants in that meadow people were apt to think that they must leave that meadow richer than they found it. It was, however, impossible to make new material without bringing in something. This was a matter for consideration, and it was one of great importance. He would now touch on another point. Marl was constantly used in manuring in former times much more considerably than at present. This marl was usually understood to consist of clay with a certain amount—5 or 10 per cent.—of lime. About 60 years ago it was generally recommended as a manure, and he had seen it stated that the farmer who, if he had marl upon his premises and did not use it, must be next to mad. What was the consequence? All through the Midland counties—Gloucester with its lias clays, Worcester with its clays of the new red sandstone, and indeed everywhere where there was a clay which contained a large percentage of lime—that clay was tapped for the purpose of marling. Even now there were holes with trees growing around them, and these trees showed holes of 50 or 60 years of age; but now the holes were abandoned for drinking ponds for cattle. At one time thousands of pounds were expended upon making these enormous holes, many of which were large enough for ornamental water. Why had they been abandoned? It was a curious question, and one that only chemistry could answer. If we went into the chalky district we found that marl had been constantly used on the top of chalk. Why was this? How could we account for it? Here in one place were marls of various kinds considered good and fatty, and which were used by the thousand loads, and yet the use of them had been abandoned in one part of the country, while the use of chalk marl had extended in another part. Chemistry explained this, and pointed out a very important principle. If they examined the lias, new red sandstone, and the silurian formation, they would be found to contain clay and lime, but nothing else; but when they came to the chalky materials, there at the bottom they found deposited and stored up, as phosphatic matter, the remains and *exuvie* of animals long since passed away. Fishes lived in the chalk sea in vast quantities, and perhaps at the bottom would be found their dung in a fossilised state. Suppose we had a stratum 2 ft. in depth of this fossilised dung, it would contain what Mr. Paine, who first brought out artificial manures, tapped in Hampshire and around the hop districts; it was just this stratum whence he obtained the *nodules* of which he made superphosphate. These *nodules* consist of layers of something like pebbles, which were found to contain when broken up the remains of fishes, vertebræ, refuse, and so on—in fact, they simply contained the *exuvie* of fishes that lived during the period that the chalk was being deposited. These fishes went on with their processes of digestion, and appropriated the softer materials, giving off the earthy matters which were gathered in that mass of superphosphate—that mine of riches which Mr. Paine tapped, and sent out into the world as successful superphosphate. As a consequence, the marls below this stratum which do not contain the pebbles are full of the same matter, and contain from 2 to 5 per cent. of bone phosphatic material, and the stratum even below this contains it, because as the water percolated through one and the other it diffused the phosphate among the marl. What was the reason that the marls in the chalk formation should be so useful? In Wilts there are thousands and thousands of loads put on land, and yet the fatty marls are not employed at all. Why should one be found so useless, and the other a fertiliser? The marls we now employ so abundantly and so usefully have the *exuvie* and the bones of animals in them; so that the whole thing resolves itself into this: if we eat portions of animals and vegetables—and we may call the more solid materials bone in both—they will contain those phosphatic materials which are so necessary. And so again with the bones and *exuvie* of animals; they left behind those remains which are almost as important for fertilising agents as if they were recently deposited. Thus does chemistry show us that there is an intimate relation between the animal and vegetable

kingdoms, and we should do more wisely if we were to recognise this fact, and economise it as regards ourselves. There was another matter, and that was guano, which would bring this question out in a still stronger light. They were all aware of the facts connected with guano. It was deposited on certain rocks in Peru and different parts of the world, and, on inquiry, we should find that it consisted of nothing but the dung or *exuvie* of penguins. These birds were found by hundreds of thousands upon the rocks. They feed on fishes, and do exactly as the Norwegian Fish Manure Company acted. They take away the softer materials of the fish, and give off the bones in the shape of *exuvie*. The Manure Company was started in Norway for the express purpose of removing the softer parts from the fishes, grinding up the bones, and sending them to market for manure; so we found in the case of the penguins—they fed on fishes, and left the more solid materials behind. The great principle connected with guano was, as with all chemical manures, that it was not so much a matter of ammonia. He believed he should be borne out by all good chemists in the remark that manures were not good merely in proportion as they smelt, though his men, if they could get something that smelt tolerably well to put upon the land, considered they were doing well. Thus the manure makers were obliged to do something with the phosphatic manures for the express purpose of making them small in order to satisfy the farmers. The fact was, these stinking manures were of no use at all. It was on such simple matters as bone phosphate, soda, and potash that the value of manure would depend. We may be quite sure that just in proportion as we use these materials from our farmyard dung we must supply them from foreign sources in order to restore fertility to the land. We have tapped all the sources of phosphate in this country, and we are now taking all the guano from the rocks in Peru and elsewhere, so that ultimately this will be exhausted. With respect to guano, it appears extraordinary there should be such a store; but if we examine any hydrographic map we shall find that in places where there is the least amount of rain the penguins deposit the guano, which is never washed away, and thus it is we can now call upon these stores. As far as guano, bones, and farmyard dung were concerned, the meeting were well aware that all these would be good just in proportion to the amount of phosphate and other chemical matters contained in them. With respect to farmyard manure, there was a time when farmers were glad to take in beasts and feed them on straw for the purpose of converting it into manure. This was a very useless and unprofitable process for any farmer to adopt. His own opinion was that it could scarcely pay for the amount of trouble employed in looking after their neighbours' beasts, for this reason—that straw does not contain that amount of manurial matter which is required. Let them give their beasts some corn, cake, or something containing manurial matter; for if straw was only worth 12s. per ton as manure, it was very little money to get considering the trouble that was experienced respecting it; but if no manurial material were added, the straw would not be very profitable to return to the fields, without corn or cake. If they sold the corn from the straw, they must do something to restore fertility to the land. If they had a thousand animals, and fed them on nothing but straw, and, after making so many thousand loads of manure by it, put it back from whence they took it, they did not render the field so fertile as it was before, because they took away the corn; therefore, merely returning the straw contributed very little towards restoring the proportion of manurial material that had been removed. It was folly for farmers to suppose that cows made manure in addition to the straw. They did nothing of the kind. There might be some secretions from the animals, but this could not be separated from the water they drank, and this was one of those principles connected with the subject of manure which the Club would do well to discuss. It was just that principle of what was the origin of manure? He knew very well that as a rule people made great mistakes upon that point. Landlords made mistakes and farmers as well. The landlord made a great mistake in saying that the latter should not do anything with his straw whilst the tenant thought he satisfied his landlord if he took away the corn, leaving the straw behind. If he (Mr. Buckman) were a landlord the tenant who did that kind of thing would very little suit him, as his farm would soon get out of order. If, however, he bought manure and fed upon his corn, using those

substances which would add to the manurial matter contained in the straw, he (Mr. Buckman) conceived that would be a tenant worth having, and it was only upon such a system as that that a farm could be made pay, whilst it would only be made poorer and poorer if a different principle was pursued. A landlord should not say to his tenant "You shall not sell the straw," whilst the tenant should maintain that straw, or whatever he could get from the land, was just as much his right as anything else on the farm, always provided that his object was to do himself as much good as he could, and to keep the farm in proper order. He was certain that if a farmer did this he would not leave his landlord anything the worse off when he left the farm than when he took it, and he was sure a recognition of those principles would leave it a great deal better than it was before. He would now say a few words with regard to farmyard manure. He had not said anything to point out the effect of farmyard manure as one of the most useful manures which could be used, and it was just as useful in proportion as its composition was varied and the food varied. It was useful, not in proportion to the number of animals which could be put on a farm and giving them merely straw, but according as something was added to that straw. So again with regard to stable manure. Some kind friends in the town would frequently say to the farmer, "If you will send me some straw you shall have my manure." That was a system of which he had always fought shy. Those gentlemen who had gardens possessed knowledge enough to know that in straw-manure all the best could be kept behind. A town gardener was not so particular as a farmer about his weeds. He threw all his weeds upon the manure-heap, and he must say that, from his own experience, manures from hotels and from town-gardens had, generally speaking, been failures. The manure from hotels was made from hay and corn, and the great object which hay-dealers had was to make as much hay off the ground as they could. The result was that they foolishly left it so late that the hay was almost gone to seed, so that there was a great bulk of hay, but generally of a very coarse kind. This was sold off, but it left weeds behind, and was a source of docks and weeds to the farmer, just as weeds were placed from the garden into the manure-heap and the best manure was left behind. There was very little profit got from sending straw into a town. It had to be carted into the town and brought back as manure, so that it was a system he did not care about. He believed that, so far as farmers were concerned in ridding towns of their refuse, they ought not to pay anything like the price asked, and especially for straw-manure. One would be prepared to pay something, but it occurred to him that to pay towns to get rid of their refuse matter was generally a great mistake. If towns were willing to pay something towards it, they might get rid of a great quantity of matter which is now poisonous to them. He hoped the time would come when, instead of everyone's excrementitious matter being mixed up with twenty gallons of water, which rendered it too bulky for the purposes of any farmer, people would be careful that these materials were worth something, and that all real excrement was carefully preserved, and kept on a system something analogous to that which has been so ingeniously pointed out by Mr. Moule, and that the water and other waste refuse of that kind will not find its way into some streams. If ever that practice was adopted farmers would be capable of dealing with that description of manure. He would now make a few remarks on this subject, as applicable to meadows. He might point out that, so far as his experience extended, there was a constant robbery of the meadow on every farm through the sheep, and there was not that amount of liberality to the meadow which the meadow deserved. He had already pointed out that as a general rule the animals folded upon meadows during the day were folded on arable land at night; but in addition farmers proceeded in a very exhaustive process in another way. One expected to take hay from his meadow once a-year, and some even twice; at any rate farmers thought themselves extremely liberal to their meadows if they only took hay from their meadow once in two years. What was the return? He had taken some pains in going over several rich agricultural districts, where he had found that within the memory of man not one scrap or atom of manure had been returned to the meadows, and people were astonished that the land which was so rich in the time of their grandfathers had now become so poor. It was,

however, a matter easy of comprehension. Every animal fed on these meadows, and every bit of cheese made from them had taken away a quantity of bone, for the animals' bones themselves contained a great quantity of phosphatic matter. Butter takes away less bone than the commoner cheese (the true *cassine*), although people supposed it was not the case. It was not the taking away the butter but the mineral matter that made the field poorer. The taking away a quantity of hay removed a large per-centage of phosphatic matter, and thus it was quite clear that unless something were done by way of restoration they were injuring the field and making it poorer. The matter resolved itself into the important fact if the plant contains manurial matters which were being constantly taken by the plants from the earth, they all knew perfectly well that there would be some loss and that they could not grow a quantity of plants upon the same meadow again and again without returning what they took out. They paid their rent just in proportion as the soil was naturally rich or poor. When one looked at the country, and found that rents ranged from 7s. 6d. to £5 per acre, he must conclude there is some reason for these two extremes. What was the difference? As a general rule it was to take into consideration if the land had been properly drained, but the real difference was in the amount of bones, phosphatic matter, such salts as soda, potash and alkalis the land may contain, so that they knew that in soils naturally fertile and naturally rich they would not be obliged to incur such an expenditure as where the land was poor. He believed that some people in order to get a crop were obliged to put into the land all the material from which the crop is made. They created a system of manufacture, just as the manufacture of articles which required raw materials to be worked up into a new form. The more of this raw material plants take away the poorer they made the soil unless they took something back. The grand object of the chemist should be to explain what the plant takes out of the soil, and to ascertain how best and cheapest he can restore those materials which the plants have taken away. Thus they would see how important it was that this principle should be recognised, and when they considered that the principle of action was this that the *exuvie* of animals and the more solid matters of the plant were so many materials taken out of the earth by which the earth was impoverished, it became necessary that these materials should be returned again in order to restore fertilisation. This was a subject on which one could go on talking for a month, but he must now leave it to the Club for discussion. The more they thought over the principles connected with the fertilising and infertilising action of manures the more he was persuaded they would be enabled to act upon economic principles. They must remember that all those vast sums of money which were spent years ago upon marl were now no longer expended. Let them look at some experiments upon the matter. Supposing that in the present day a farmer thought of applying marl to his land he might say that it was of no use to put upon land simply clay and lime. He had already taken away all the phosphatic matter in the corn, and as this corn contained the active principles he wanted back again they were not to be found in clay and lime, but only in phosphatic matter. All they had to do if they had marl, and thought it could be useful, was to send it to a chemist for analysis, and if he found it contained a certain amount of phosphatic matter, it would be a fertilising agent. When in Berkshire he went over a gentleman's estate, and a marl pit was pointed out to him which had been used for ages and ages, and had been put on the rent roll as yielding a revenue of £500 a-year. It was disused now, and he asked the reason. He replied that practically he could not say why it was disused, but that a little chemistry would point it out theoretically. When this marl was examined it was found to be a mixture of drifted chalk and silt from the river, but not to contain any phosphatic matter whatever. Here was the reason why it was not useful, and one single chemical experiment pointed it out. The expense of employing a professional chemist was a mere trifle, whereas in this case it had been proved to be useless for years before, at a cost of £500 a-year, which the farmer paid down to the landlord for the privilege of carting it away, and this £500 only represented a small proportion of the expense, because there was the cost of haulage and cartage, the marl being sent, as he was informed, 25 miles away. They would, therefore, see how important it was to examine those principles, and he must now

leave them to discuss the subject, assuring the Club that he was only too thankful for the kind attention which they had given him.

Mr. G. HOMER said he felt some little disappointment in not hearing something of top-dressing, as he was rather anxious to get some information upon a subject of which he knew nothing. The question introduced was one of great importance, and in which all were personally interested. In this county they saw the system upon which their forefathers went, that of breaking up a piece of land and cropping it as long as it would grow anything, and laying it out for grass until nature renovated it to some extent, when it was once more broken up. At a still less remote time the plan seemed to have been to keep a large number of sheep upon grass land, keeping the arable in some condition by folding sheep upon it, when it was again broken up. But all these means had come to an end now, for the land was ploughed, and the principle by which it could be kept in condition was the one which he wished to learn, and how to effect it in the most economical way. He had no doubt that Professor Buckman was right in saying that the land was becoming poorer and poorer. Where there was no great expenditure in artificial manures on bad land, and especially pasture, it was getting more impoverished. Some pasture land which he had formerly heard mentioned as of great value was now of little worth, and this would bear out Mr. Buckman's remarks. He believed that the cheapest principle upon which the land could be kept in condition was that of giving every animal kept a certain amount of artificial food with the natural production of the soil. Let them take for instance the dairies which were kept in this county to a great extent. Here was a great loss of phosphatic matter. If the dairy cows were fed all the winter at least upon a proportion of cake, straw and hay, more cows could be kept than heretofore, and their manure would compensate the land if this was laid out on it; and there would be no deterioration in its value year after year. Arable land could be kept in condition by using artificial manures; but experiments had proved that pasture land could not be kept up by the same means. He did not see what reason chemistry could assign for that. Generally speaking the outlay of artificial manures on pasture land seemed to be thrown away. He hoped this subject would not be brought to a close without some one affording information upon top-dressings. This was a subject of great moment now, when wheat seemed to be a more important product to the farmer than had been the case for the last few years.

Mr. DAMEN could not help thinking that the system usually adopted had been very exhaustive, and that they should have proceeded long before now on the common-sense principle [of Mr. Moule—of economising the best natural manure to be found in the country. They could see plainly that artificial manures sooner or later would become exhausted. He felt very warmly on this subject, having been (he might say it without egotism) a larger purchaser and importer of Peruvian guano than all the people in the county besides. He had found, however, that lately the agents of the Peruvian Government could no longer guarantee the quality of the guano, as all the best was exhausted from the islands in use for the last 30 years. It had been found from an analysis which had taken place on these productions that the value had varied from £7 to £15 per ton. Therefore, whatever the sacrifice might be to himself, he would not ask the farmers to buy guano of him unless he could guarantee its quality. The best islands were already exhausted, and who should say if in a few years the inferior islands and the phosphates now found would not also be exhausted? Therefore it was important, considering the great increase of population, that all the natural manure should be economised and made the best use of. His friend Mr. Homer had said the land must be tilled; but how were they to do it? He ventured to say that for many years past £100,000 a year had been spent in this county upon manures—a sum equal to the yearly rent of ten large estates. If all these lands must be tilled the necessary quantity of artificial manure could not be supplied. This was a serious matter, and it was incumbent on every one to look into it thoroughly. They could have recourse to feeding corn and cake to restore fertility; but this must depend on the price of meat and the value of the corn and cake, because if these things were looked on as a means of restoration they would themselves become dearer if we lost the phosphates imported into this country for some years past.

Professor BUCKMAN said with regard to the subject of top-dressing, he felt he had no time to proceed with it. As might have been observed, he was building up a theory which would gradually have led up to that subject. He was obliged, however, to leave it.

Mr. LOCK had hoped to hear something on top-dressing. He generally used soot in the spring of the year, and he wished to learn from Professor Buckman how to make a better use of his pasture land. He was carrying a great deal of manure on it. Professor Buckman was quite right in his observation that these lands were in much worse condition than formerly. He thought if they carried their manure more upon them, and used more corn for the sheep, they might bring the land into a better state.

Mr. T. C. SAUNDERS, with regard to meadow land, believed that, although in many cases more was taken away from them than was returned, the fact of their deterioration might be attributed rather to mechanical than chemical causes. He had been speaking to Professor Buckman of a piece of meadow land, which he had no doubt was richer now than it was 50 years ago. He mowed it every year; but it had scarcely a plant but the coarser grass standing. He thought this was owing more to mechanical than to chemical causes. In order to account for this he thought that both causes should be considered. They were well aware that the supplies from abroad could not be depended upon. They should therefore be careful to save as much as possible of their home-made manures, and restore them to the soil. He considered the adoption of Mr. Moule's system should be strongly recommended. With respect to guano, it was becoming scarcer every year, and the quality they might expect to receive now would not be so good as in former times. On this account and others he would recommend the consideration of the desirability of availing themselves of their home manures as much as possible.

Mr. T. CHICK observed that he was struck with one remark in Professor Buckman's lecture. He said he did not consider that sheep returned anything to the land. He (Mr. Chick) always had an idea that some plants, such as broad clover, took a great many of the elements they contained from the air, and if sheep eat those plants these must be taken in, in a great measure, from the air and not from the soil. He was not a topdresser of land himself; he generally put his manure through the animals' stomachs. This year he could not manure his wheat in time, and now he wanted to topdress it. He did not know how, so perhaps some of his friends would give him information. As good guano could not be obtained, it had occurred to him whether nitrate of soda mixed with something else would not answer the purpose.

Mr. H. TAYLOR remarked that he had had a little experience in topdressing. Some few years ago his father used some which he had bought of him, and partly used it on a four-acre field. He never saw the piece of wheat until after it was reaped, when he looked at the stubble. He walked across this with his father, and then asked him where he sowed the topdressing. He replied, "I suppose you can see by the difference in the stubble?" This was much larger than usual, and there was not half so much grass as in other places. He considered topdressing to be very useful, and would well pay for doing. With regard to Mr. Moule's earth system, he had had as much experience as most people, and at the present time he had about 20 tons of the manure. He was of opinion that agriculturists should make the best use they could of that article; and if the system could be adopted in every parish it would be found to answer exceedingly well.

Mr. C. SAUNDERS said that his experience as a top dresser had been considerable. He had always found guano to answer exceedingly well, but at the present time the price of wheat and guano was very different. He would recommend guano in some respects, but certainly not financially.

Mr. GENG said: It certainly seemed rather inconsistent that after the immense sums of money which had been expended in fertilizing the soil the production of the land should not be increased, and the quality of the soil improved to some extent. Professor Buckman had remarked at some length upon the disuse of marl. Although he (the chairman) wished to go with every modern improvement, still he must say he felt some respect for the usages of their forefathers; and he would suggest this answer to the question why marl was disused—

because the land had had sufficient upon it. With respect to chalk, they knew very well that its mechanical action upon the soil was quite as great as its manurial.

Professor BUCKMAN said the topics mooted were very important, and would each form the subject of a lecture. If they took one of the manures mentioned—guano—it was a fact pretty generally recognised that of all top-dressings guano generally formed a part; therefore if this manure be indifferent it is no wonder its action should be found not so efficient as formerly. Whether we employed guano, bones, or any other material as a dressing for our pasture land or arable fields all would depend on their value, and on the fact that we can eke out the common farmyard dung. He defied anyone to point out genuine cake in the market, and he believed it would pay to get a good sample of linseed and grind it up with barley meal. With regard to the artificial manures now being used in this country, they were substitutes for superphosphate and other matters taken away by the corn. Where did the corn go? If it came back to the land, the fertility would be retained; but on the contrary, it all went away. Every one of our

population used the best white wheaten bread, and the corn went away into the rivers. We do not feel this as long as we keep up the artificial manures; but we must feel it in the end, and the land must become poorer and poorer. What had been said with respect to guano was true with regard to bones. Now they could not get a genuine sample of bones—one-half of it was vegetable ivory, not containing an atom of phosphate. He contended with regard to top-dressing that the best way to keep their meadow lands in fertility was not to be too greedy with the hay-rick. If they must have hay, don't let it run almost to seed. If they took away the seed, they took the corn also, and exhausted the plant; so that ultimately, grasses that are good now would die out. If they would keep their land in fertility, they must not send away so much corn from the soil. They had better by far feed it with genuine materials if they possibly could; but at the same time, let as much corn be brought to market on the animals' backs as possible. Let them rather send it that way to market than by carts and waggons.

A vote of thanks having been passed to Professor Buckman, the proceedings terminated.

DEATH OF MR. W. WETHERELL, THE SHORTHORN AUCTIONEER.

Mr. William Wetherell, of Aldborough, and formerly of Kirkbridge, died on Saturday, the 25th of February, in the 79th year of his age. It is thus that The Druid writes of Mr. Wetherell in his last book, *Saddle and Sirloln*:

We must hie across the country to Aldborough, to have a word with the "Nestor of Shorthorns." It is more than half a century since Mr. Wetherell commenced with Shorthorns on the farm near Pierce Bridge, where he was born. The Shorthorn fame of his native county had been about coeval with his own birth in 1792, and long before he commenced his maiden herd at Holm House in 1816, "the haughty southrons" had learnt to regard Durham as a very Goshen of cream and beef, and as holding a sort of charmed existence, under such proverbially cold and weeping skies. Those spirited biddings which he heard as a lad beneath the lime trees at Ketton were not lost upon him; and hence, eight years afterwards, he set out on the Barmpton day with a determination to go in merrily on his own account. Thirty-four of the cows, and four of the heifers under twelve months old, had been knocked down before he caught Mr. Robinson's eye; and then lots 41 and 43—Lady Anne and Cleopatra, both of them full of George and Favourite blood—became his for 100 and 133 guineas, and wended their way to Holm House that night. His last or fourth herd numbered about fifty head, fifteen of them bulls, and was located at the High Grange, near Melsonby, where Mr. Wetherell took quarters for them in consequence of not meeting with a suitable farm. A drive of three miles from Aldborough brings you to the spot, which is nearly the most elevated in the neighbourhood. Diddersley Hill, with its sparse covering of whin and heather, stands bleak and brown on the south, partially intercepting the view towards Richmond, which is seven miles away. There was once a castle on it, and as you pass through a half-crumbling turreted archway, you fancy that, even if it be only tenanted by the owls and the bats, there must of a surety be one still; but not one stone is left upon another. You soon find that your castle is in the air, and that you have just passed through the mere portal to a moor. Mr. Wetherell's holding was up two or three fields to the left. The farm-buildings look desolate enough, and exposed to all the fury of the west wind, but there was a snugness and comfort in all the arrangements, down to the canvass curtains and the whin bushes on the gates, which proved, without even seeing the result in the beautiful condition of the cattle, that Mr. Wetherell and his trusty herdsman, John Ward, had not battled with the elements in vain. Lady Scarboro', an old dame of stately presence, broad back, and prominent breast, and the roan Cosy were the leading dowagers of those sheds, and the roan Moss Rose, whose public life had been one series of brilliant seconds to Nectarine Blossom, was grouped in a Ward bouquet with her daughters Ayrshire and

the buxom Stanley Rose. John's last was cast with her in troubled times hereafter, in the "fatal walk she took through Holyhead;" but now she had only to lift her gay little head, and come marching straight towards us with that massive Bride Elect bosom, as if the Durham County wreath were already her own. Next came the curly, white head of that handsome bull Statesman, with those rare lengthy quarters, and a 26-inch measurement from the tail to the huggin. Much as Mr. Wetherell liked this bull, he considered that his best was one by Young Albion, from the dam of Rosanna, for which he would not have taken 500 gs., and yet he had to shoot him for fear of manslaughter. The sale day was one to be much remembered, and the Moor looked all life, as the Shorthorn men, who had been entertained royally at the King's Head over-night, poured into it, and found their host in his white waistcoat on a pony, acting as field-marshal, while the 48 lots, bar infants, were being marched round in tribes. A blue bullock-van, with "The Cumberland Ox" in six-inch letters on its side, did duty as catalogue and counting-house. The Union Jack floated above the Durham Horticultural tent, and the voice of the revellers was pitched in its highest key, when Mr. Wetherell said a few feeling words to neighbours and "auld acquaintance" (as Billy Pierce always phrased it), and poor Jackson, then just midway in his race career "at lusty one-and-thirty," returned thanks for the Turf, coupled with himself and Saunterer. Mr. Sam Wiley and Mr. Charge were both there, and the latter called to mind, as he stood bowed and feeble with years, and leaning on the arm of a friend, how, nearly nine-and-forty years before, he had joined to buy "a leg of Comet," and how none of his three partners remained to tell the tale. Mr. Jaques, a great winner and breeder when Clementi was in the land, looked on, and so did Mr. Nesham, the owner of old Usurer, who lasted until his fourteenth year. Mr. Richard Booth stood by with a quiet chuckle, and Mr. John Booth was the Branches Commissioner. Her Ladyship listened anxiously in her brougham, till the relentless "and ten" upon "ten" stopped at "300 for Lady Pigot" (loud cheering), and Stanley Rose was proclaimed the prima donna of the day. Mr. Drewry was not to be denied for Cosy and Comfort, nor Mr. Doig for Moss Rose and Ayrshire Rose. About 73 guineas for 48 lots was the final return from the waggon, and a roan heifer calf by King Arthur, from Duchess of Northumberland, was the only memento left. After that Mr. Wetherell formed no more herds, and wound up by breeding two or three thorough-bred foals from a Flying Dutchman mare. The neighbourhood was not drained of prize Shorthorns when the forty-eight had gone. Mr. Wood, of Stanwick, a close neighbour of Mr. Wetherell's, won the first aged prize with Lord Adolphus, against both Lord of the Harem and Prince Frederick, at Battersea in '62. Four years after his beautiful cow Corinne stood first at the Plymouth

Royal and the Yorkshire, and it was from heifers of his breeding that Mr. Mitchell, of Alloa, bred some Highland Society prize winners. "Nestor's" little home at Aldborough has many a herd memento on its walls. There is the cow bred by Mr. Thomas Booth, which he sold at two years old to Mr. Carter, of Theakstone, and then bought back at beef price and put to Comus (1861). She had three heifers, and Mr. Rennie, senior, of Phantassie, bid him 500 gs. for them, and ended by buying the oldest out of the pasture for 250 gs. The second went to Mr. Whitaker. Three roans are there from Herring's hand, and painted in Memnon's year, when he was a struggling coachman artist in Spring Gardens, Doncaster. Comet (155) is said to be the only one by Weaver in existence. Mr. Wetherell always thought Comet too long, but still a more elegant bull than Duke of Northumberland, who had also to struggle against rather upright shoulders. Comet's kith and kin are there in St. John and Gandy by Favourite, bred by Mason, who always loved good hair. Still, perhaps, one of the greatest triumphs is the old sow of the Elemore, or rather the Bakewell breed. She was one of a litter of eight sows and two boars, and the former won the first prize in eight successive years at Cordilleras, near Richmond. "Bid me discourse" is an invitation Mr. Wetherell never shrank from; and, with the Brothers Colling, Mr. T. Booth, Sir Tatton Sykes, Capt. Barclay, and Mr. Wiley on his walls, it would be strange if he did not sit by the hour in his easy chair, and tell of old times and Shorthorn doings when they were all in the flesh. At times the gig comes for the Chief Baron to go over and spend a few days at Killerby and Warlaby. He presides there in great state at those "high private trials" of Shorthorns under the trees in the home garth, and cites the Charity precedents. Mr. John Outhwaite frequently assists, and adopting a mode of practice quite unknown to the Westminster law courts, that learned baron generally backs his opinion from the bench for one, if not two, new hats. On the knotty subject of the Leicester yearling heifers, the Court, which never objects to "liquor up" during the most weighty discussion, divided two and two. "Great constitution" is Mr. Wetherell's leading tenet, but "great size" never was.

DEATH OF MR. FAWKES, OF FARNLEY.

Mr. Francis Hawksworth Fawkes died on Monday, March 13, at his seat Farnley Hall, at the advanced age of seventy-four. The descendant of a family whose members for many generations took an active part in public affairs, he worked hard and effectively for political freedom when such action was anything but popular. Mr. Fawkes was born in 1797, and married in 1825 Elizabeth Anne, only child of the late Honourable and Rev. Pierce Butler, and granddaughter of Henry Thomas, Earl of Garrick. Mrs. Fawkes died without issue in 1866. Mr. Fawkes was eldest son of Walter Ramsden Fawkes, who was one of the members for the county of York in 1806. He was the grandson of Walter Ramsden Beaumont Hawksworth, of Hawksworth, who assumed the surname and arms of Fawkes, who, on the death of an only son, left his estate to Mr. Hawksworth in 1786. The father of the deceased was one of J. M. W. Turner's most enthusiastic and kindest patrons. He formed a collection of Turner's paintings of unequalled extent and great value. This collection was carefully guarded by his son, who, however, was always disposed to allow the gallery at Farnley Hall to be inspected, and it need hardly be said that admirers of the great English landscape painter from all parts of the world have availed themselves of this privilege. As an agriculturist, or more especially as a breeder of Shorthorns, Mr. Fawkes was also well known. His career in this way may be said to have begun with Mr. Whitaker's stock; but still he had tried his 'prentice hand at both Bates and Booth before, and never bought or hired from either of them again. His first purchase was Norfolk (2377), a roan bull by Second Hubback, and such a favourite of Mr. Bates', that he sent four heifers from Kirklevington expressly to be served by him. One of them was "my best Duchess" 33rd, the great grand-dam of Grand Duke; another, Blanche by Belvedere, from whom Roan Duchess 2nd is in direct descent; and a third founded the Waterloos of Aylesby and Springfield fame. Norfolk himself was from Nonpareil by Magnet, rather a gaudy cow, from Mr. Barker, of East Layton's sale, where Sir Charles Knightley purchased the

Rose and Primrose, which, along with Rufus and Little John of Mr. Arhuthnot's breeding, virtually founded the Fawley herd. In 1834, Mr. Fawkes bought Verbena and the magnificent Medora, for 39 gs. and 35 gs., at Mr. Richard Booth's Studley sale, and bred nine calves from Medora. The year previous Mr. Whittaker sold off his herd, and again bought about three dozen well-bred cows, for the use of his work-people, at the Burley mills. Mr. Fawkes was so much struck with the looks of some of them, that he arranged with his neighbour to allow him to select twenty for service principally by Norfolk. The compact was to be in force for three years, and ten guineas was to be paid for each of them, doublets or not, at the expiration of a week, provided it was not a black-nose, and had no symptoms of unsoundness. Hence sixty were transferred during that period from Greenholme to Farnley, and the first ten bull calves by Norfolk averaged 100 gs. each.

It had been Mr. Fawkes' habit to have periodical bull sales, which have at times reached an £80 average. Roans were his favourite colour; and the result of his experience was that a white bull upon a red cow was much more certain to produce them, than a red upon a white. As a general rule, he did not sell his females. The Emperor of the French's agent transplanted three roan heifer-calves by Bridegroom, along with Maid of Lorn, from this herd to the Imperial stalls: and Kentucky and Ohio have not left it unransacked in their searches after blood.

THE METHODS OF EXTRACTING SUGAR FROM BEET-ROOT AND CANE.—Mr. Kohn read a paper on this subject at a meeting of the Society of Arts. The address referred chiefly to the different kinds of machinery so far employed, while the lecturer came to the conclusion that "within the limits of the existing demand and capability for producing meat in any beet-root growing country, the scale turns in favour of beet-root, and against the cane; beyond these limits, however—and there is a vast field for sugar production outside of these limits—the sugar-cane still remains the principal and most important raw material for the production of sugar, and so it will continue, in all probability, for an indefinite time." In the discussion that followed Mr. Appleby said the distillery at Buscot Park was set up by his firm, and to a considerable extent under his own personal supervision, and he therefore felt great interest in the process. Mr. Kohn appeared, after considering the various processes, rather to favour that of M. Jules Roberts, which, he was sorry to say, he had not yet been able to see in action, but hoped to be able to do so some day. He did not quite gather whether Mr. Kohn had considered the matter simply from a distiller's or refiner's point of view, or whether he had looked at it from the agriculturist's stand-point. A short reference only had been made to the Leplay system, which differed materially from that of M. Jules Roberts, although there was a certain amount of similarity between them. As it appeared to him, the great merit of the system was that there was so little manual labour, and such a large percentage of return; but it did not appear so clear that the same agricultural benefit would be derived from the pulp as was the case with the Leplay system. In the latter the slices of beet were put into a vat, where they were fermented, and from thence removed into the stills at once. Steam was then turned on, the spirit evaporated from the slices, and the latter were thoroughly cooked, thus fixing all the nutritive matters, and at the same time destroying those which were not useful to the cattle. It was known by experience that this pulp would keep for six or twelve months, and he believed it had been kept for two years perfectly good, the practice on the Continent being to store it and use it whenever fodder was required. He should like to know from Mr. Kohn whether he considered Roberts' system as good for farmers as the Leplay; for in this country he considered that question was one of very great importance, because if the beet-root distillation or the manufacturing of sugar was to be carried on to any great extent, it appeared to him that the question of food was almost, if not quite as important as the percentage of sugar or spirit obtained; for what the farmer wanted was to carry back to the land the products which had come from it. The system therefore which would do that most effectually was the best adapted for this country, even if it were not quite so productive to the distiller or sugar manufacturer. He should be glad to hear further details as to the method of distilling by Roberts' system.

THE BIRMINGHAM SHORTHORN SHOW AND SALE.

IN BINGLEY HALL, ON THURSDAY, MARCH 2ND, 1871.

Upwards of 104 bull calves and yearling bulls were entered in the two first classes; and 19 cows and heifers, 17 older bulls, with a lot of extra stock, swelled the show up to 158. A few certainly did not put in an appearance, but that the thing was overdone was but too apparent, as this was the general remark among exhibitors and buyers. The past season may well account for the number. Keep of all kinds is getting scarce and dear—hay especially, and although we have promises of an early spring, breeders were anxious to dispose of their surplus stock in some market or another. There was just the chance of a little extra price, as well as a prize, at Birmingham, hence the increased entries. The same cause, however, that led to the large entry operated against the prices, consequently the sums realised were not so high as last year, and many were passed away at the twenty-guinea reserve. The appearance and condition of the stock was also against a good sale, and Mr. Charles Howard and Mr. William Sanday had very hard work to adjudicate among the 37 yearling bulls. The Rev. R. B. Kennard was in good luck, for he not only took the £50 prize with Marm-hull Duke, of Penrhyn blood, as a yearling, but the £20 prize for the best bull calf. The yearling was a pleasing roan, with a nice head, fair top, standing wide in front, with good crops. His hind quarters were plain, but he was brought out in blooming condition, and fetched the top price of the day, 71 gs., to Mr. Allsopp. The second prize yearling, The Proctor, bred by Messrs. Garne, was commended last year at the Oxford Royal; but he lacked the fineness and elegance of the breed, and had not made so much progress since his Oxford appearance. Mr. Attwater took him at 50 gs.; and the third prize animal, Lord Beauchamp's Union Jack, fetched 16 gs. more, being purchased by Mr. White for Australia at 66 gs. The public fancied him more than the judges, as his price indicated. He was bred by Earl Beauchamp from Mr. Adkins' old Hermia line, and was a straight, rich coloured, good shouldered bull.

The 67 calves, on the whole, were rather a better lot than the yearlings; but the strong upright shoulders preponderated in a large majority. Mr. Upson of Essex gave 68 gs. for Mr. Kennard's very hairy Oxford Prize, the first prize here, and Lord Braybrook's leggy but stylish looking Grand Duke of Oxford, the second best, went for 45 gs. to Mr. Bates. Sir John Rolt showed a very good coated thick calf, which took the third prize, and realised 40 gs.; while Mr. Cartler's Duke of Annandale (35 gs.) was the reserve number in this class, and well deserved a place, as did all those animals sent from Bever. Several of them in this class were passed, whilst others fetched but 21 gs.

The seven cows were sent by Mr. E. A. Fawcett, and Mr. Thos. Hands of Canley, who sold a good portion of his herd. Mr. Fawcett, however, got the £5 prize with Mr. J. K. Fowler's Prisca, of Lord Exeter's blood. Of Mr. Fawcett's three, one was withdrawn and the other two made 26 gs. each. Miss Pearl, 37 gs., made the top price of Mr. Hands' four, which averaged just upon 31 gs. each, and were well brought out. Mr. Fawcett was in luck again among the heifers, as his Queen of the May, bred by Mr. Charles Barnes, took the £5 prize, and went to Mr. Upson, who is a keen bidder for prize winners, for 30 gs. This heifer was of the old Khirkee blood, well known years ago at Bushey. Mr. How was highly commended with a very fat one, Primrose, three years old, which made 41 gs. to Mr. Robbins. Mr. Hands had six in this class: two made 31 gs. each, one of which was a prize heifer at Warwick. Messrs. Garne received the £5 prize for two years old bulls, and Mr. Hands another £5 in the aged class with Lord Lavender 4th: the butchers were, however, the principal buyers in both these classes. Ten animals were entered as extra stock, Sir Geo. Jenkinson sending half of these; but only one of the whole lot, and that at 21 gs., was apparently sold. There were altogether 52 exhibitors, the largest contributors being Messrs. Garne (10), Mr. T. Hands (14), Mr. W. Woodward (8), Mr. E. A. Fawcett (7), Earl Beauchamp (6), and Mr. Cartler (6). The prices generally ruled low, and there were evidently more animals for sale than buyers present. Many no doubt

would have found it equally, if not more profitable, to have made steers of their calves instead of rearing them as bulls, and the country might have been benefited instead of glutted with a lot of bulls, whose inferiority tended to lower their owners' reputation as breeders, and undervalue the herds from which they were sent. Mr. Lythall, the Secretary, was the auctioneer.

SALE OF THE BETTIE SHORTHORNS.

The yearly sale of the stock of Mr. Andrew Langmore of Linkfield, took place at Linkfield, near Banff, on March 2.

BULLS.

Victor Hugo, light roan, calved November 28, 1869.—Mr. Craikshank, Mains of Cullen, 27 gs.
Bazine, red, calved December 25, 1869, Mr. Wood, Colp Turriff, 21 gs.
Glenfalloch, red, calved March 3, 1870.—Mr. Shand, Ordens, 40 gs.
Star and Garter, red with white marks, calved March 15, 1870.—Mr. M'Kensie, Briggahelloch, 20 gs.
Lothair, red with white legs, calved March 20, 1870.—Mr. M'Culloch, Banff Asylum, 18 gs.
Teesdale, rich roan, calved April 2, 1870.—Earl of Fife, Duff House, 34 gs.
Lord of Lorne, red, calved April 16, 1870.—Mr. Proctor, Ardoch, 24 gs.
Punch Bowl, red, calved June 25, 1870.—Mr. Shand, Balnoon, 32 gs.
Strathallan, red with white legs, calved January 27, 1870.—Mr. Forbes, Boghead, 38 gs.
Ixion, dark roan, calved May 19, 1870.—Mr. Cameron, Gualdwell, 30 gs.
Iron King, red, calved June 15, 1870.—Mr. Strachan, Thomaston, 27 gs.

HEIFERS.

Adeline, light roan, calved February 14, 1869.—Mr. Branyon, 31 gs.
Perfume, red, calved February 26, 1869.—Mr. Cantlie, Keithmore, 39 gs.
Constance, red, calved March 6, 1869.—Mr. Jamieson, Turriff, 38 gs.

SALE OF LORD FITZHARDING'S SHORTHORNS,

AT BERKELEY CASTLE, ON THURSDAY, MARCH 9.
BY MR. THORNTON.

A few more lots were catalogued for this, the second sale; but they were, as a whole, hardly brought out in such good condition. A bright morning tempted many out; but by eleven the rain began to fall, and the wind rose until it blew a hurricane from the Channel—and the sale took place under the most unfavourable circumstances. Waggons, poles, and rick-cloths were put up on the lee side, and sheltered the majority of the company; but it was past two before the party from the Castle and Kingscote came up, and the proceedings commenced. Lord Wild Eyes 5th, the first lot, was reserved in the absence of another sire, but biddings were very brisk for the young bulls. A very fine calf of Mr. Oliver's Cowslip, fetched 55 gs., and Duke Wild Eyes and Bismark, both from Sholebroke cows, were very promising, and sold well. The Rev. E. Turberville Williams got three nice heifers at reasonable prices, but Mr. Wilson, of Worcester, took most of the other heifers. Rose of Dumbleton 2nd, out of Mr. Holland's old prize cow Rose of Dumbleton, fetching 60 gs.

The small herd belonging to the late Mr. Bourne, was also sold. Gayser, the first cow, had calved a pair of white bull-calves, and was low in condition; Mr. C. Barnes got her at 27 gs., and put the calves up at 30s. each, to the laughter of the audience and horror of the auctioneer,

but ultimately they made 3½gs. each. China Aster, a very good heifer of lord Spencer's old No. 25 sort, fetched the top price, 40gs.

The Berkshire pigs were a very choice lot, and made some extraordinary prices. The breed has been at the castle for more than five-and-twenty years, and in great repute throughout the district. Three very handsome hils were bought by Mr. Wilson, of Ohio, U.S.A., for 12½, 16, and 29 gs. respectively. Mr. Hedworth Barclay gave 10 gs. for the best boar, and Mr. Barnes took one at 9 gs. The thirteen pigs averaged just upon 10 gs. each; and soon after the sale finished the sun broke out, and the large company departed in pretty well as fine weather as they came.

SALE OF MR. THOMAS ROBINSON'S SHORT-HORN HERD,

AT BURTON-ON-TRANT, ON WEDNESDAY, MARCH 1st, 1871,
BY MR. JOHN THORNTON.

This sale was postponed from November last, on account of the foot-and-mouth disease. The animals were brought out in good healthy condition, after being kept through the winter. Mr. Robinson reserved the yearlings, as also one or two calves; and this, no doubt, had an effect on the prices, as well as the fact that many of the pedigrees had only three or four crosses. Still a good company was present. After a luncheon in the brewery, seasoned with some of the best Burton, they adjourned to the ring, which was formed with barrels in the brewery-yard. Several animals were bought by Sir Percival Heywood, and for Mr. T. Bass, M.P., Mr. J. Hardy, M.P., and Mr. Ed. Grey. The principal prices were—Duchess of Darlington, 33 gs.; Seventh Duchess of Oxford, 33 gs.; Royalty, 33 gs.; Mazonrka 2nd, 31 gs.; Cecilia 2nd, 31 gs.; Grand Master Bates 4th, 31 gs. Thirty head averaged 225 13s. 6d. A few dairy-bred things were also offered, and the sum total of the sale was close upon a thousand pounds.

SALE OF MR. STUBBS' SHORTHORNS, AT PRESTON HILL, PENKRIDGE, ON MARCH 17.

BY MR. THORNTON.

This herd has been bred for fifteen years, chiefly from Mr. Haigh Allen's and Mr. Ambler's stock. Mr. Stubbs, however, had generally gone in for good bulls, and had just used Col. Pennant's Victor, a son of Marmaduke, then Mr. Langston's Thorndale's Grand Duke, who was followed by Lord Lyon from Holker. A Waterloo bull, Charles Edward, was up to the present in use. For three years the drought was very bad, and not only the farm, but the stock suffered severely. Last year during the hot months keep was difficult to get at all; the cattle consequently lost flesh, which they never regained, whilst the young ones were stunted in their growth. They had, however, somewhat mended during the last few months, and some of the heifers came out well. Juno 2nd, a fine large cow, fetched 34gs. from Mr. Nevett, of Yorton Villa, who was a free buyer. Kirklevington 4th came of fashionable Bates blood, but her sire, Sylph Prince, although of good pedigree, had not yet found a number in the *Herd Book*. The cow had just dropped a red bull-calf, and was consequently pulled down, and looked low in condition. Several breeders were present looking after her, but she went comparatively cheap to Mr. Gibbon for 55 gs., her

calf Mr. Masfen taking at 8 gs. Hinda 3rd, a very sweet-looking cow, was bought for Mr. A. Hathorn at 38 gs., as well as one of the Bright Eyes tribe at 36 gs. Chamois, also of the Bright Eyes family, which goes back directly Mr. Robert Colling's stock, went to Mr. Beckwith for 40 gs., and Mr. Tunncliffe bought Charmione of the same family for 36 gs. Hinda 6th, a prize winner at the local shows, was bought by Mr. Robotham for 40 gs., but the best lot in the sale was Coralline, a handsome heifer, which Mr. W. Bradburn finally secured at 31 gs. Mr. H. Moore bought Crystal for 33 gs., and Mr. W. Ward for Mr. W. Angerstein took a fine calf Princess at 21 gs. Charles Edward went to Mr. Nevett at 46 gs., and Mr. Price gave 27 gs. for Chamois' red bull calf. The sale amounted to nearly £1,500, and the 56 head averaged 225 12s. 6d.

SALE OF A DRAFT OF MR. STRATTON'S SHORTHORNS,

AT BURDEROP, ON MARCH 15.
BY MR. THORNTON.

It seems but a few years since that Mr. Stratton gave up the Broad Hinton Farm and sold off about a hundred head. Thence he went to Wall's Court, and on giving up that farm, with its extensive buildings, he returned to Burderop in his native district. This holding is now to be given up at Lady-day, and in consequence a large portion of his Shorthorn herd was brought to the hammer. It was singular to observe how few of the Shorthorn aristocracy were present. Mr. Edward Little was in the chair at the lunch, but Mr. Stratton was absent, owing to very bad health.

Mr. Stratton kept back most of his plums, and did not offer a prize-winner; but a splendid white steer, out of Flower-Girl's dam, did his morning's walk outside the hurdles, and was in truth a walking advertisement as to what the stock could produce. He is of great growth, very active, and remarkably level-fleshed; and if he goes on, it will take a very superior animal to beat him at the next Christmas Show.

The lots came quickly into the ring, and were as quickly sold. The first at sixteen years old was fresh-looking for her age, and went to Mr. Brown, of Uffcott, for 26 gs.; but most of the cows were in years, and did not make anything extra, till Matchless 10th entered. The Warwick Royal cow was of this sort, and Matchless 10th being full of calf, she was put in at 30 gs., and went merrily along up to 50. Mr. Hawkins then gave two more, and got her. Mr. B. Hoddinott got a useful animal in Ada at little money, and when Frivolity entered, he was a quick bidder. This heifer, by the same sire as the white steer, was one of the handsomest lots, and Mr. Trotter and several others were bidders; but Mr. Hoddinott gave the "odd shot," and bought her for 71 gs. Mr. Trotter got Splendour, one of the most stylish and best-bred lots in the sale, at 41 gs. Honeysuckle was also a good animal, and sold well; but Golden Drop was the plum of the heifers. Mr. Hoddinott was again in, opposed by Mr. Parr, of Cheshire, who finally secured her for 68 gs. Red Matchless, daughter of Frivolity, was also full of promise, and goes to Mr. Benyon, M.P. Mr. Chandler, of Newport, also got some fair animals.

The bulls, as a whole, were rich coloured, short-legged, and well fleshed, being particularly good in their flanks, twists, and hind-quarters. The first bull, one of the best lots, a white one, made only 26gs., but there was more competition for the others. Spectator, a little plain about the head, was extra good behind, and went up at

guinea biddings, from 80gs. to 76gs., at which price Mr. W. H. Dunn secured him.

COWS AND HEIFERS.

Cleopatra 3rd.—Mr. J. W. Brown, 26 gs.
 Rosebloom.—Mr. J. E. Jeffreys, 24 gs.
 White Rose of Salthrop.—Mr. C. Chandler, 28 gs.
 Dewdrop.—Major Turberville, 29 gs.
 White bull-calf, calved March 2, 1871, dam Dewdrop.—Mr. Iles, 9 gs.
 Bridesmaid.—Mr. G. Manning, 31 gs.
 Matchless 9th.—Mr. H. Hardinge, 29 gs.
 Alicia.—Mr. J. Chalcraft, 24 gs.
 Red bull-calf, calved March 6, 1871, dam Alicia.—Mr. J. Chalcraft, 7 gs.
 Matchless 10th.—Mr. J. L. Hawkins, 52 gs.
 Clarion.—Mr. J. E. Jeffreys, 28 gs.
 Roan bull-calf, calved Jan. 23, 1871, by James 1st (24202).—Mr. J. Clark, 10½ gs.
 White Rose.—Mr. J. E. Jeffreys, 22 gs.
 Ada.—Mr. B. Hoddinot, 31 gs.
 Red cow-calf, calved March 7, 1871, dam Ada.—Mr. J. G. Attwater, 9 gs.
 Martha.—Major Turberville, 31 gs.
 White cow-calf, calved March 7, 1871, dam Martha.—Mr. J. Chalcraft, 7½ gs.
 Geraldine.—Mr. C. Chandler, 25 gs.
 Rosy.—Mr. G. Manning, 28 gs.
 Prima Donna.—Mr. R. Lyne, 32 gs.
 Johanna.—Mr. W. Stratton, 20 gs.
 Frivolity.—Mr. B. Hoddinot, 71 gs.
 Daphne.—Mr. R. G. Gould, 26 gs.
 Sportive 2nd.—Mr. R. Stratton, 21 gs.
 Mary.—Mr. W. F. Beaven, 37 gs.
 Thetis.—Mr. J. Parr, 30 gs.
 Splendour.—Earl of Cawdor, 41 gs.
 Cymbal.—Mr. R. C. Gardener, 29 gs.
 White cow-calf, calved Feb. 26, 1871, dam Cymbal.—Mr. R. C. Gardener, 10 gs.
 Linda.—Mr. J. Parr, 52 gs.
 Roan cow-calf, calved March 1, 1871, dam Linda.—Mr. T. Arkell, 11½ gs.
 Honeysuckle.—Mr. C. Chandler, 42 gs.
 Winter Rose.—Messrs. Higgins, 26 gs.
 Rosedale.—Mr. D. Long, 28 gs.
 Tinsel.—Mr. A. Edmonds, 26 gs.
 Golden Drop.—Mr. J. Parr, 68 gs.
 Wild Rose.—Mr. B. Hoddinot, 31 gs.
 Miss Brunette.—Mr. R. Stratton, 22 gs.
 Prude.—Mr. H. Betteridge, 26 gs.
 Red Matchless.—Mr. R. Benyon, M.P., 43 gs.
 Purity.—Mr. H. Betteridge, 17 gs.
 Tarpeia.—Mr. R. Benyon, M.P., 22 gs.
 Salthrop Maid.—Mr. T. Compton, 17 gs.
 Bonny Queen.—Mr. C. Chandler, 20 gs.
 Dryad.—Earl of Cawdor, 35 gs.
 Medea.—Messrs. Higgins, 21 gs.
 Nectar.—Mr. C. Chandler, 26 gs.
 Maude.—Mr. T. Compton, 19 gs.
 Gentle Lady.—Mr. C. Chandler, 19 gs.
 Merry Maid.—Mr. T. Arkell, 20 gs.
 Peony.—Mr. R. Benyon, M.P., 22 gs.

BULLS.

Brilliant.—Mr. R. Stratton, 26 gs.
 General.—Mr. J. Bank, 40 gs.
 Allan-a-Dale.—Mr. J. Stratton, 30 gs.
 Lord of the Isles.—Mr. T. Sisun, 36 gs.
 Will of the Wisp.—Mr. W. A. Rabbeck, 36 gs.
 Gaiety.—Messrs. R. Smith and Son, 28 gs.
 Agamemnon.—Mr. B. Bennett, 42 gs.
 Spectator.—Mr. W. H. Dunn, 76 gs.
 Wild Wave.—Mr. W. Hole, 26 gs.
 Claudina.—Mr. W. Birch, 43 gs.
 Waif.—Mr. T. Compton, 15 gs.
 Eighth Duke of York.—Mr. T. Arkell, 21 gs.

SUMMARY.

44 Cows (£33) ...	...	...	£1450	11	6
11 Bulls (£38) ...	...	...	417	18	0
55 averaged £34			£1868	9	6

SALE OF COLONEL KINGSCOTE'S SHORTHORNS,

AT KINGSCOTE, ON MARCH 8TH.

BY MR. STRAFFORD.

Gloucestershire men mustered in great force at Kingscote, and many four-in-hands were on the roads from Cirencester, Stroud, and Berkeley. In fact, few men are more popular in the county than Colonel Kingscote and Lord Fitzhardinge, who occupied the chair at the lunch. Foxhunting and good Shorthorns often go hand-in-hand, and Mr. Bowly, who grows really eloquent over his "fourth estate," never discourses to a more enthusiastic audience than he finds in his own county.

The herd at Kingscote was established by the Colonel's father, when Tortworth Court was in its palmy days, and the late Lord Ducie was not only very ready to give his friend and neighbour good advice, but to help him with a few good animals also. Several of the older families had passed away, but the blood was kept up through the sires, Contract (10071), a son of Usurer, being one of the earliest. At the great 1858 sale at Tortworth, Chaff was purchased, and there were several descendants of her in the catalogue as well as of Lord Sherborne's Lilac, Mr. Ladd's Serenade, Mr. Bowly's Gertrude, as also Mr. Parkinson's Cerito and Mr. Abbey's Victoria. Two of the fashionable Darlington's were, however, the greatest attractions among the cows. The lots were on view before the sale at a little off farm; where some of the cows showed the effects of the drought through the summer, and consequent scarcity of food in the winter months. The in-calf heifers were, however, brought out well, and in nice condition. The all-round Cirencester tent accommodated nearly four hundred to lunch, when the usual loyal and complimentary toasts were given. In proposing the health of Mr. Strafford, Lord Fitzhardinge said that he hoped the Colonel would have an excellent sale, but that Mr. Strafford would not extract all the money out of the pockets of his audience as he wished to see some left for a poor little sale in the Vale on the following day. After the usual introductory speech and conditions of sale, Mr. Strafford got quickly to work, and the lots were soon sold; but no high prices were made until Dora, entered the ring. This cow, a long, straight, good animal, in the judgment of many might pass for a Duchess. She was put up at 50 gs., and a hundred was quickly bid, Mr. Savage, of Wotton Leps, a tenant farmer, went quietly along, smoking his cigar, and bidding fives up to 175, when 200 came from the rostrum and the glass ran finally for Sir John Rolt. Some of the cows seemed to go cheap enough; but any near calving to Third Duke of Clarence, brought better competition. Most of the cows showing great milking qualities were a little on leg, long in the neck, and thin in the chine; but they had good coats of hair, and were of fine quality. The noble chairman bought one of the best looking, Heber, down calving, at 50 gs., and Mr. Barclay seemed to get two cheap animals in a similar state, of the Cerito tribe, originally from Panton. Henrietta 11th, a young cow low in condition, but near calving, also elicited a good many bids, but Mr. Geo. Hooper, who bought several, ultimately got her. Cucumber, of the Knightley blood, although stated to be in calf, and a pretty coloured beast, had a somewhat doubtful look, and made only 58 gs. The Seraphinas also did not take so well as many expected, nor did they come out quite so well as at Southcott years ago.

Doralice was the most attractive lot among the heifers, and was a good short-legged animal. Although light thighed she had good huggings and excellent quality,

and was, moreover, three months gone to 3rd Duke of Clarence: she was put up at 100 gs., and Mr. Savage covered it with five amid the cheers of the company. Heavy biddings followed, but he kept well up and got her, in comparison with her dam, cheap at 165 gs. Some time since he gave the Colonel a hundred guineas for a Wild Eyes bull-calf, and the bull is now said to be one of the best in the county. A heavy storm of hail and snow then poured down and the wind freshened. The ring was sadly thinned and many of the best-looking lots went comparatively cheap. Ursula, 80 gs., unfortunately lost her calf, and Lord Dunmore got her a bargain at 50 gs., as well as Severn Lass, a square nice Seraphina heifer, at 60 gs.

The clouds cleared off soon after the bulls came in, but the first three up did not make any particular prices. Prince of Clarence, recently let for a high price, had been returned low in condition, and his upright shoulders, as well as a narrow top and want of depth, went against his price, which was but 38 gs. Severn Lad, a useful bull, out of a good cow, made 70 gs. Duke of Fusbos, with five pure Duke crosses on the Fidget tribe, was an attractive lot, and had a good loin and hind-quarters, though with a somewhat objectionable head and shoulders. He was put in at 30 gs. but soon reached 100, and finally fell for 200 gs. to Sir John Rolt. Oxford Beau, out of the imported Oxford heifer, was one of the best young bulls in the sale, notwithstanding his white colour; few thought, however, that the 300 gs. reserve would be covered; but Mr. Smith for Lord Penryn at once claimed him at that price, and Mr. Thornton for Lord Feversham advanced upon it, but he went eventually to Penryn Castle for 330 gs. Some of the other young bulls sold well, but the interest of the sale seemed to cease after this, and many went down to look at the Third Duke of Clarence, a Grand Duchess heifer from Sholebroke on a visit, and some thirty cows and heifers, with which the Colonel proposes to continue the work already so well begun. The forty-three cows realised £2,032, or an average of nearly £50 each. The nineteen bulls, nearly all of which were calved in 1860 and 1870, realised £1,311, or an average of about £69 each.

COWS AND HEIFERS.

Duchess of Slimbridge.—Mr. Hayward, 29 gs.
Vixy.—Capt. de Winton, 25 gs.
Heliotrope.—Mr. Rich, for Lord Suffolk, 40 gs.
Lady Godiva.—Mr. H. Holborough, 31 gs.
Princess Helena.—Miss Strickland, 39 gs.
Clarissa.—Mr. Clutterbuck, 26 gs.
Laura's Love.—Miss Strickland, 34 gs.
Sabrina.—Earl of Cawdor, 40 gs.
Dora.—Sir John Rolt, 200 gs.
Carrie Walton.—Mr. W. Peasy, 40 gs.
Lady Walton.—Mr. Armstrong, 31 gs.
Henrietta 5th.—Lord Fitzhardinge, 50 gs.
Cerito 12th.—Mr. Barclay, 32 gs.
Henrietta 7th.—Mr. Hooper, 53 gs.
Henrietta 9th.—Earl of Cawdor, 34 gs.
Cerito 13th.—Mr. Barclay, 33 gs.
Vanilla.—Mr. M'Laughlin, 35 gs.
Henrietta 11th.—Mr. Hooper, Newport, 65 gs.
Goneril 3rd.—Mr. Playne, 50 gs.
Cucumber.—Mr. Jones, 58 gs.
Lady Collingham.—Mr. Edmonds, 43 gs.
Henrietta 12th.—Mr. Wilson, 32 gs.
Severn Lady.—Mr. M'Laughlin, 41 gs.
Doralice.—Mr. Savage, 165 gs.
Lady Lettice.—Mr. Hooper, Newport, 61 gs.
Vallonia.—Mr. Jones, 51 gs.
Cerito 17th.—Major Picton Turberville, 53 gs.
Severn Countess.—Lord Fitzhardinge, 47 gs.
Ursula 30th.—Earl of Dunmore, 50 gs.
Severn Lass.—Earl of Dunmore, 60 gs.

Chaff 14th.—Mr. W. J. Edmonds, 45 gs.
Cerito 19th.—Mr. Garlick, 25 gs.
Henrietta 14th.—Mr. S. Rich, 41 gs.
Queen Seraphina.—Mr. T. Arkell, Swindon, 34 gs.
Empress Seraphina.—Mr. Bengough, 37 gs.
Severn Maid.—Earl Beauchamp, 46 gs.
Henrietta 15th.—Mr. S. Rich, 37 gs.
Henrietta 16th.—Sir G. Jenkins, 37 gs.
Cerito 20th.—Hon. C. Fitzwilliam, 25 gs.
Versatile.—Mr. Bengough, 26 gs.
Henrietta 17th.—Earl of Dunmore, 47 gs.
Lady Clarence.—Sir G. Jenkinson, 25 gs.
Goneril 5th.—Mr. Playne, 20 gs.

BULLS.

Second Earl of Walton.—Mr. Edmonds, 42 gs.
Lord Red Eyes 2nd.—Mr. Armstrong, 54 gs.
Prince of Clarence.—Mr. Cooper, 38 gs.
Severn Lad.—Mr. Wilson, 40 gs.
Eighth Lord of the Lilacs.—Mr. Farnell Cornwall, 45 gs.
Duke of Fussbox.—Sir J. Rolt, 200 gs.
Duke of Slimbridge 4th.—Mr. Sturgeon, 30 gs.
Post Card.—Col. Miles, 43 gs.
Duke of Slimbridge 5th.—Miss Strickland, 43 gs.
Prince of Clarence 2nd.—Mr. Jones, 75 gs.
Oxford Beau.—Lord Penryn, 330 gs.
Duke of Hazlecote 12th.—Gen. Wood, 36 gs.
General Clarence 2nd.—Mr. T. Mace, 72 gs.
Duke of Hazlecote 13th.—Mr. Latham, 42 gs.
Lord of the Lilacs 9th.—Mr. Tanner, 38 gs.
Vindicator.—Mr. Bennett, 41 gs.
Marquis of Bickerstaffe.—Mr. Hooper, 58 gs.
Chafferer.—Lord Beauchamp, 45 gs.
Duke of Hazlecote 15th.—Mr. Danton, 21 gs.

SALE OF MESSRS. CRUICKSHANK'S YEARLING SHORTHORNS.

AT SITTITON, ON THURSDAY, MARCH 16TH.

BY MR. MITCHELL.

Of the fifty young bulls catalogued one choked, and was slaughtered a few days ago, and eleven were not offered. The thirty-eight put up formed a remarkably equal lot, taking age into account, and were all sold. On some previous occasions there may have been a few finer animals. Six of the bulls had for sire Champion of England, and two were after Forth. Caesar Augustus, Scotland's Pride, Senator, all descended from Champion of England, were the sires of the majority. The finest young bulls were considered to be London Pride, Earl Buchan, Charles Augustus, King of the Valley, Earl Granville, Officer of State, and Shuttlecock. The last-named, not yet nine months old, was more generally admired than any of the others, and is in every respect a good animal, very heavy, and well developed for his age. He is after Scotland's Pride, which won the Challenge Cup at Aberdeen in 1867, and displayed quality of points and fineness of hair which could not be excelled. London Pride, the highest-priced bull, is about sixteen months old, and is a very massive, well quartered bull, with great substance and splendid points. He is after Scotland's Pride. Earl Buchan, by Senator, was greatly admired, being a beautifully-coloured, well-fleshed bull—one calculated to do good in the Orbiston herd. He would have brought a higher price if he had been higher up in the catalogue. The bulls were all in good condition, well-coloured, and very heavy and well-shaped. A score of promising heifers, after the same animals as the bulls, brought fair prices in the cow ranks. There was a very large attendance of agriculturists from all parts of the country, and the sale was a remarkably good one. The bidding was very spirited, and the auctioneer sold the fifty-eight lots in about an hour and twenty minutes. It was not only the best sale in the north this year, but one of the best the Messrs. Cruickshank ever had. The average prices were the highest the brothers ever realized—bulls £46 6s. 6d., and the heifers close on £30 a-head. The old bulls now in the herd six in number were shown before luncheon. Three of these were bred by the owners—Scotland's Pride, a five-year-old roan; Sena-

tor, a four-year-old roan; and Caesar Augustus, a four-year-old red. The other three were taken from England, where they were bred. One of them a monster, from old roan Knight of the Whistle, was bred by Mr. Foljambe, Nottinghamshire; and the other two, sire and son, were Baron Killerby, a five-year-old red bull, bred by Mr. Pawlett, and Prince Alfred, a three-year-old dark roan. Both these only came to Sittyton a few months ago.

BULLS.

Marlboro', red, calved April 18, 1869.—Mr. Leith, Standstil, Wick, 83 gs.
 Robert Lowe, red, calved April 21, 1869.—Mr. Thomson, Pitmedden, Dyce, 39 gs.
 Nota Bene, roan, calved November 20, 1869.—Sir John Sinclair, Dunbeath, Caithness, 29 gs.
 Duke of Genoa, red, calved January 27, 1870.—Mr. Bean, Mains of Dumbeck, Udry, 31 gs.
 Grand Marshal, roan, calved October 24, 1869.—Mr. Robertson, Inverforth, Portlethen, 39 gs.
 London Pride, roan, calved October 30, 1869.—Mr. Smith, Glenlivet Distillery, 80 gs.
 Statesman, roan, calved October 22, 1869.—Mr. Milne, Tillycairn, Cluny, 63 gs.
 Marquis of Lorne, roan, calved November 25, 1869.—Mr. Henderson, of Bilbster, Caithness, 61 gs.
 Earl of Buchan, red, calved February 23, 1870.—Mr. Geddes, of Orbiston, Fochabers, 52 gs.
 Aide-de-Camp, roan, calved February 16, 1870.—Mr. Maxton Graham, Redgorton, Perth, 46 gs.
 Charles Augustus, red, calved March 4, 1870.—Mr. Wishart, Cairntradlin, Kinnellar, 74 gs.
 Crusade, red, calved March 4, 1870.—Sir G. Dunbar, Ackergill, Tour, Wick, 48 gs.
 King of the Valley, red, calved March 5, 1870.—Mr. Ritchie, Weetingshill, New Deer, 51 gs.
 Lord Lieutenant, red, calved Feb. 21, 1870.—Mr. Douglas, Clyth Mains, Wick, 23 gs.
 Armour Bearer, calved February 25, 1870.—Mr. Ironside, Cairns, New Deer, 76 gs.
 Standard Bearer, red, calved March 4, 1870.—Mr. Pirie, Waterton, Ellon, 76 gs.
 Earl Granville, red, calved March 24, 1870.—Mr. Phillip, Softkillock, Keithhall, 60 gs.
 Soothsayer, white, calved March 2, 1870.—Mr. Mollison, Dockfour, Inverness, 30 gs.
 Alphonso, white, calved April 6, 1870.—Mr. Bruce, Heatherwick, Keithhall, 40 gs.
 Graud Turk, roan, calved March 25, 1870.—Mr. Gray, Embo, Mains, Sutherlandshire, 36 gs.
 Daniel Defoe, roan, calved March 24, 1870.—Mr. Beattie, Cocklarachy, Huntly, 43 gs.
 Village Boy, roan, calved April 22, 1870.—Mr. Craig, Strathmore, Coull, 24 gs.
 Lord Lansdowne, red, calved March 24, 1870.—Mrs. Turnbull, Brupier, Bourtie, 46 gs.
 Baron Forth, roan, calved April 20, 1870.—Mr. Davidson, Mains of Cairnbrogie, Tarves, 55 gs.
 King of Roses, red, calved March 5, 1870.—Mr. Ardiffrey, Cruden, 42 gs.
 Sultan, red, calved March 18, 1870.—Mr. Petrie, Glencorrie, Dufftown, 43 gs.
 Lord Vincent, red, calved February 17, 1870.—Mr. Bruce, Fornet, Skene, 25 gs.
 Tiberias Caesar, red, calved April 2, 1870.—Mr. Watt, Moneddie, Marnoch, 40 gs.
 High Steward, roan, calved April 15, 1870.—Mr. Argo, Mill of Gavel, Fintray, 34 gs.
 British Crown, red, calved April 8, 1870.—Mr. Maitland, Balhaggard, Keithhall, 31 gs.
 Anno Domini, red, calved April 13, 1870.—Miss Rose Innes, of Netherdale, 33 gs.
 Officer of State, red, calved March 27, 1870.—Mr. Wishart, Aberdeen, for Duke of Sutherland, Dunrobin, 46 gs.
 Baron Glo'ster, roan, calved April 11, 1870.—Mr. Mitchell, Hillhead, Daviot, 23 gs.
 Glo'ster Royal, roan, calved April 19, 1870.—Mr. Benton, Crookmore, Alford, 44 gs.
 Ravenswood, red, calved May 3, 1870.—Mr. Fergusson, Brae of Kynoch, Old Deer, 22 gs.

Last of Forth, red, calved May 16, 1870.—Mr. Cran, Auchlyne, Kinnethmont, 29 gs.
 Shuttlecock, roan, calved May 25, 1870.—Mr. Benton, Hart-hill, Keig, 73 gs.
 Golden Era, roan, calved May 29, 1870.—Mr. Moir, Knockhall, Foveran, 28 gs.

HEIFERS.

Amazon, red, calved December 2, 1869.—Mr. Hutchison, Lower Cotburn, Turriff, 26 gs.
 Coral, roan, calved November 29, 1869.—Mr. Matheson, Dis-blair Cottage, New Machar, 31 gs.
 Diadem, red, calved November 7, 1869.—Mrs. Scott, Birkenhill, Gartley, 31 gs.
 Lady of the Lake, red, calved November 23, 1869.—Mr. Wishart, for Duke of Sutherland, 48 gs.
 Lady Florence, red, calved December 11, 1869.—Mr. Ironside, Cairns, 36 gs.
 Waterwich, red, calved February 16, 1870.—Mr. Ironside, Mill of Colp, Turriff, 30 gs.
 Lady's Pride, red and white, calved February 18, 1870.—Mr. Hutchison, Lower Cotburn, 30 gs.
 Princess Charlotte, red, calved March 26, 1870.—Mr. Robertson, Ardlaw, Pitaligo, 25 gs.
 Laurel's Forth, roan, calved February 21, 1870.—Mr. Milne, Tillycairn, Cluny, 33 gs.
 Queen Bess, roan, calved February 27, 1870.—Mr. Dawson, Mill of Rathen, 22 gs.
 Volatile, red, calved February 7, 1870.—Mr. Stewart, Cargaiton, Fettercairn, 34 gs.
 Lucilla, red, calved March 13, 1870.—Mr. Gordon of Parkhill, 25 gs.
 Matchless 15th, red, calved February 20, 1870.—Mr. Ironside, Mill of Colp, 35 gs.
 Crystal, red, calved April 20, 1870.—Mr. Milne, Tillychirn, 26 gs.
 Butterfly 15th, roan, calved April 12, 1870.—Mr. Mackie, Petty, Fyvie, 29 gs.
 Kilmeny 12th, roan, calved April 2, 1870.—Mr. Laing, Fisherbriggs, Pitaligo, 21 gs.
 Rosewreath, red, calved February 22, 1870.—Mr. May, Haddo, Cruden, 21 gs.
 Golden Cross, red, calved April 8, 1870.—Mr. Jamieson, Mains of Waterton, Ellon, 26 gs.
 Anna Buckingham, white, calved April 7, 1870.—Mr. Willox, Park, Lonmay, 20 gs.
 Matchless 16th, calved April 20, 1870.—Mr. Ironside, Mill of Colp, 20 gs.
 The total proceeds of the sale were £2,358 6s., being an average per head of £40 10s., for the fifty-eight bulls and heifers sold.

SALE OF THE EARNHILL SHORT-HORNS.

The entire herd of Shorthorns belonging to Mr. Richard Heath Harris, Earnhill, Forres, Morayshire, was sold without reserve in the Agricultural Hall, Forres. There was a large number of farmers and breeders of stock present. The Earnhill herd is not of long standing, but through the care and attention of Mr. Harris it had acquired considerable fame. The foundation was chiefly drawn four or five years ago from the Balnaferry, Inchbroom, and Gordon Castle herds, the dispersion sales of the two first-named herds four years since furnishing the principal animals. Mr. Ross, Forres, was the auctioneer.

COWS.

Ariadne, roan, calved April 17, 1860, and calf.—Mr. Bruce, Broadland, Huntly, 40 gs.
 Fairy Queen II., red, calved March 6, 1861.—The Duke of Richmond, Gordon Castle, Fochabers, 30 gs.
 Jesamine, roan, calved April 9, 1862.—Mr. Bruce, Newton of Struthers, 29 gs.
 Mayflower, red, calved April 1, 1863.—Mr. Bruce, Broadland, 35 gs.
 Impression II., white, calved January 23, 1865.—Mr. Bruce, Newton of Struthers, 25 gs.
 Julia III., red, calved March 30, 1866.—Mr. Catto, Know-head, Marnoch, 33 gs.

Money, red and white, calved May 8, 1865.—Mr. Cantlie, Keithmore, Dufftown, 36 gs.
Victoria, roan, calved March 29, 1866.—Mr. Bruce, Burnside, 37 gs.
Myrtle, roan, calved April 5, 1866.—Mrs. Munro, Belville, Kingussie, 37 gs.
Red Rose, red, calved March 5, 1868.—Mr. James Main, Burns, Fordyce, 35 gs.

TWO-YEAR-OLD HEIFERS.

Bolla V., dark red and white, calved May 8, 1869.—Mr. Mackay, Burgie, 19 gs.
Venus XL, red and white, calved May 15, 1869.—Mr. Ruxton, Inchbroom, 29 gs.
Jouquil, roan, calved May 27, 1869.—Mr. George, Auchincrieve Grange, 25 gs.
Fair Tyne, roan, calved August 22, 1869.—Mr. M'Kessack, Kinloss, Forres, 34 gs.

YEARLINGS.

Mirth, red and white, calved April 13, 1870.—Mr. Shand, Ordens, Banff, 37 gs.
Mary, red, calved April 15, 1870.—Mr. Shand, Ordens, 33 gs.
Cherry Ripe, red and white, calved August 24, 1870.—Mr. Geddes, Orbliston, Fochabers, 16 gs.
Lady May, red and white, calved September 27, 1870.—Mr. M'Kessack, of Ardyce, 19 gs.
Finthorn, red and little white, calved October 25, 1870.—Mr. M'Kessack, Kinloss, 15 gs.
Sprite, red and little white, calved October 26, 1870.—Mr. Mackay, Burgie, 14 gs.

BULLS.

Lord Hawthorn, red, calved May 3, 1868.—Mr. Calder, Muirton, Drainie, 40 gs.
Second Duke of Tyne, roan, calved August 24, 1869.—Mrs. Munro, Belville, Kingussie, 36 gs.
Altyre, red, calved April 25, 1870.—Mr. Mackenzie, Elgin, 26 gs.
Macmahon, red, calved June 15, 1870.—Mr. Gilgean, Rosebrae, Elgin, 27 gs.
Prince Imperial, roan, calved September 9, 1870.—Mr. Walker, Altyre, Forres, 15 gs.
Louis Napoleon, roan, calved September 19, 1870.—Mr. Mackay, Burgie, Forres, 13 gs.

SALE OF THE NAIRNSIDE SHORT-HORNS.

The entire herd of Shorthorns at Nairnside, by order of the representatives of the late Mr. Macbean, was sold by public auction. Though the herd has only been in existence about nine years, it had become one of considerable extent and reputation in the district. The eighteen cows offered had either calved or were in-calf to the bull Lord Byron, bred at Kinellar, Aberdeenshire. The first four cows in the catalogue were those which almost founded the herd. Four of the next five were after Wellington, bred at Wester Fintray. The other nine were young cows after Duke of Cornwall, a Broadland bull. Six of the two-year-old heifers were also descended from this bull, the other two being by Mario by Duke of Tyne. Nine yearling bulls and four yearling heifers had for sire Lord Byron. Mr. Gordon, Nairn, was the auctioneer.

COWS.

Genevieve, red and white spots, calved 10th March, 1861.—Mr. Anderson, Garland, Boharm, 20 gs.
Countess, red and white, calved 2nd March, 1861.—Mr. M'Lennan, Cairnglass, 19 gs.
Constance, red and white spots, 21st March, 1862.—Mr. Hendrie, Castle Heather, 14 gs.
Kate, roan, calved 5th April, 1862.—Mr. Ross, Hillhead, 28 gs.
Elsie, light roan, calved April, 1864.—Mr. Reid, Inchberry, 29½ gs.
Duchess, red, calved May 1864.—Mr. Hendrie, 27 gs.
Lovely II., red, calved March, 1867.—Mr. Molleson, Dochfour, 19½ gs.

Queen, red, calved March, 1865.—Mr. M'Kessack, Culblair, 23½ gs.
Mary, roan, calved May, 1865.—Mr. Macpherson, Drumour, 19½ gs.
Princess Royal, rich red roan, calved 11th January, 1867.—Mr. Fraser, Balloch, 25 gs.
Kate II., rich red roan, calved 7th April, 1867.—Mr. Stewart, Woodlands, 23½ gs.
Bella, roan, calved 2nd March, 1867.—Mr. Dunbar, Garvely, 19 gs.
Genevieve II., red, calved 1st March, 1867.—Mr. A. Park, 19 gs.
Countess, rich roan, calved 22nd March, 1868.—Mr. Ross, Ankerville, 33 gs.
Victoria, red, calved 4th April, 1868.—Mr. M'Kessack, Culblair, 19½ gs.
Flora, red, calved 11th April, 1868.—Mr. M'Kessack, Culblair, 19½ gs.
Daisy, white, calved 3rd December, 1868.—Mr. Riddle, Kildrummie, 17½ gs.
Agelica, rich roan, calved 10th January, 1868.—Mr. Anderson, Lochdhu, 17½ gs.

TWO-YEAR-OLD HEIFERS.

Mary II., red, calved 1st December, 1868.—Mr. A. Park, 17½ gs.
Elsie III., red, calved 25th February, 1869.—Mr. Sim, Ardillie, 22 gs.
Constance IV., red, calved 21st March, 1869.—Mr. Sim, Ardillie, 21½ gs.
Duchess II., calved 14th March, 1869.—Mr. M'Intosh, Auchnacloch, 19 gs.
Florence II., roan calved 23rd February, 1869.—Mr. M'Intosh, Auchnacloch, 22½ gs.
Genevieve III., roan, calved 22nd March, 1869.—Mr. M'Intosh, Auchnacloch, 19 gs.
Princess Royal II., red, calved 26th May, 1869.—Mr. M'Intosh, Auchnacloch, 18 gs.
Kate III., white, calved 30th July, 1869.—Mr. M'Intosh, Beterim, 18 gs.

YEARLING BULLS.

Star, red, with white mark, calved 15th March, 1870.—Mr. Heudrie, Auchneim, 24 gs.
Champion, red, calved February 28th, 1870.—Mr. M'Donald, Ben Nevis, 25 gs.
Bismarck, red and white, calved 12th March, 1870.—Mr. —, Ballevraid, 23½ gs.
Gambetta, red, and white mark, calved 25th March, 1870.—Mr. M'Donell, Calcots, 34 gs.
Prince Alfred, red, calved 21st April, 1870.—Mr. Mackenzie, Wester Ord, 20 gs.
Prince Charlie, roan, calved 23rd April, 1870.—Mr. M'Pherson, Cleppanton, 23 gs.
Fenian, red, with white marks, calved 3rd May, 1870.—Mr. Phillip, Auchness, 13½ gs.

YEARLING HEIFERS.

Effie, red, calved 3rd January, 1870.—Mr. Grant, Followick, 20 gs.
Lucy, roan, calved 26th April, 1870.—Sir Kenneth Mackenzie of Gairloch, 13 gs.
Lilly, roan, calved 13th May, 1870.—Sir Kenneth Mackenzie of Gairloch, 30 gs.
Fanny, red, calved 15th July, 1870.—Mr. Stewart, Lyne, 18½ gs.
Several young calves sold at from 4 gs. to 12 gs. each.

SALE OF MR. BURTON'S DEVON HERD,

ON WEDNESDAY, MARCH 23, AT BROADCLYST,

BY PLAYER AND WEBBER.

For several years past Mr. Richard Burton has taken a great interest in breeding cattle, and has carried away a number of prizes, the last honour falling to his lot being the second prize for his heifer Daisy at the Smithfield Club. Mr. Burton now retires from his farm, and with it he gives up breeding Devons. The first lots to come under the

hammer were the cows in or with calf. Brown, with a calf by her side by Acland, sire Prince Jerome, was bought by Mr. John Chamberlain, of Exeter, and Whimble for 20½ gs. Florence was knocked down for 27 gs. Mr. Walters (Bideford) bought Farmaid for 20½ gs., and her offspring went for £5 11s. to Mr. J. Chamberlain. Graceful went for £17 10s. to Mr. Webber, and her calf for £7. Lydia, a capital cow in calf, went after a sharp contest to Mr. John Chamberlain for £30; her heifer calf for 11 gs. Topsy went for 15 gs. to Mr. Walters, and her calf for 7½ gs. to Mr. John Carnall (Broadclyst). A cow in calf went to Mr. R. Farrant (Clist Hydon) for £20, and another with a calf only fetched £16 10s., falling to the lot of Mr. Willa, of Pengellys, Alphington. Nelly, a two years and four months old heifer, which won the first prize at the Royal Cornwall last year, and is now in calf, did not fetch so high a price as was anticipated, going for 20 gs. to Mr. Webber. A lot of two-year-old steers came next, and Mr. G. Havill, Heavitree, took one for £19, and Mr. Melhuish, of Exeter, had another for £15 15s. A third went to Mr. John Chamberlain for £18; and another ran up to 18½ gs. to Mr. John Gould, of Poltimore. Mr. Knott, Exeter, bought the next; while the following lot was knocked down to Mr. John Chamberlain for £20. The next calling for notice was the heifer Lydia, 18 months old, which was highly commended at the Royal Oxford Meeting; she went to Mr. Henry Bond, of Exeter, for £19. Following this lot came a dozen yearlings, and the first one offered made most money, being knocked down to Mr. C. Norrish, of Motion, Broadclyst, for £10 5s., who also bought the next highest priced yearling for £10. Mr. Robert Taylor, of Broadclyst, had a nice little heifer for £5; and another went for £7 15s. to Mr. Henry Palmer. A cow in calf by Acland went for the low price of £18; her offspring, however, caused a most spirited competition, and after very brisk bidding went for 15½ gs., both to Mr. Taylor. Following these came the fat cattle. The first two were 22 months old steers by Prince Jerome, and intended by Mr. Burton to go to the Birmingham Show, had he sufficient accommodation to properly prepare them. One went for £22 11s. 6d. to Mr. Tree, of Topsham; and another fetched £26, given also by Mr. Tree. The next beast was an enormous fat cow, apparently of the South Ham breed, going to Mr. G. Havill for £31, who also purchased the next beast for £18 5s. Among the other buyers were Mr. Ellia, Cadbury; Mr. T. Webber, Halberton; Mr. Robert Taylor, Broadclyst; Mr. White, Holcombe Rogus; Mr. Henry Palmer, Fairfield, Cullompton; Mr. J. Channon, Broadclyst; Mr. W. Reed, Silverton; and Mr. Bartrum, Exeter. The herd realized about £650.

SALE OF MR. SIMPSON'S LEICESTER FLOCK.—

The Field-house flock of Leicester sheep, the property of Mr. John Simpson, who for half a century has been a sheep and ram breeder, and who is now retiring, was sold at Field-house, near Hunmanby, in the East Riding, by Mr. Halliday, of Scarborough. There were about 1,000 sheep, about half the flock being ewes and gimmer shearlings in lamb. Many breeders were present at the sale. The gimmer shearlings in lamb were readily bought, the prices ranging from 60s. to 71s., and averaging 66s. 6d. per head. The selected ewes, which were sold in lots of five each, fetched an average price of 77s. per head. The general flock of ewes, which were put up in pens of 10 each, were sold at an average of 64s. 6d. per head. The gimmer hoggs were disposed of at 47s. to 56s. 6d., the average being 50s. per head. The wether hoggs sold at an average price of 46s. 6d. per head. The tup hoggs sold in pairs, and fetched from 65s. 6d. to 162s. 6d. per head.

SALE OF MR. JORDAN'S LEICESTERS.—

Mr. Boulton sold by auction the Caythorpe flock of Leicesters, the property of Mr. Francis Jordan, who is retiring. The sheep combine the strains of Mr. Hall, of Scarborough, Mr. Borton, of Barton, and Mr. Robinson, of Carnaby. Many hundreds of people assembled, and the best known

breeders of Leicesters were present. For the ewes in lamb by rams of the Carnaby and Scarborough flocks there was a brisk competition, the range being from 60s. to 71s., and the average price 64s. 2d. per head. Among the principal buyers were Messrs. Stevenson, Tranmer, Hornby, Botterill, Brigham, Cockerill, Usher, Sawdon, Granger, and Robinson. The wether hoggs ranged from 47s. to 60s., and averaged 54s. per head, and the gimmer hoggs ranged from 42s. 6d. to 51s. per head. There was a strong demand for the tup hoggs, which made an average of 65s., the top figure being 101s. 6d. to Mr. Stevenson. The chief buyers were Messrs. Marshall, Leppington, Beckett, and Stevenson.

DEATH OF "CRAFTY."

This famous old show-mare, for whom Mr. Fielden, M.P., gave 250 gs. for his own riding on the close of her public career, fairly ran away with her new owner a few days since, when she sustained such severe injuries from driving against a stone wall, that it was found necessary to destroy her. Crafty, bred by Mrs. A. Dalzell, of Stainburn Hall, Workington, in 1858, was by The Judge, out of a mare by Nimrod (h. b. son of Muley), her dam a hackney mare of unknown pedigree, the property of the late Dr. Dickinson, of Workington. The Judge, bred by Mr. A. Dalzell in 1850, was by Galar, out of Cerito (sister to The Carrier) by The Saddler, out of Amaryllis by Cervantes. The Judge was not much of a race-horse; but he was the sire of very good riding stock in the Carlisle and Cumberland country. Crafty was purchased when a yearling at £20 for Mr. H. J. Percy, of Howsonrigg, Aspatria, by his manager, the now well-known George Malcaster, who brought her out in the same year 1859, when she was first shown, and placed third to two half-brothers by The Judge, in the yearling class of hunting colts and fillies at the Cockermonth meeting of the Cumberland and Westmorland Agricultural Society. In the same year Crafty took the first prize of 2 sovs. for yearling fillies by The Judge, and the second prize for yearling saddle or harness fillies, at the Wigton Agricultural Society's show. The summary of Crafty's performances on the show-ground up to the close of 1866 gives this extraordinary result: Had been exhibited fifty-six times, taken forty-one first prizes, thirteen second prizes, one third prize, and was once not noticed by the judges—the total reaching to £304 in public money, with six silver cups. She was never beaten twice by the same horse; and in six of her defeats for first place at the more local meetings, she has in turn taken the honours when she again met any of her previous conquerors. We have ourselves had Crafty before us in the ring, and although we have placed her first, we own to having also put her no higher than second, even with her Royal ribands still fresh upon her. The old mare took many of her premiums in the brood-mare classes, for which she qualified in this way: 1862, br. c. by Orford (son of The Emperor); 1864, b. f. by The Judge; 1865, b. c. by Motley; 1866, shipped a dead filly to Langar, and was again put to Motley. Her second foal to her own sire, The Judge, reads as one of those monstrous crosses, if cross it can be called, in which we can see no sense; and we hope never to hear of the experiment being repeated. Crafty was a rich dappled brown mare, standing fifteen hands one inch and a-half high, and girthing six feet two-and-a-half. She had a neat sensible head with a good eye and a nicely crested neck, running into well-raised withers; a full chest with beautifully laid shoulders; a capital barrel and back, with good round quarters and well-developed arms and thighs; her joints were excellent, her legs and feet first-rate, while she was full of power without lumber, but with plenty of length, hardy looks, and especially grand taking action: indeed, when once the order was given to saddle, and Mulcaster got on her back, it was generally about all over, for perhaps so showy a nag and so good a showman have never been seen together. Her tail to be sure was rather mean, but when set going she spread this out fan-like and so made up a yet more perfect picture than she even offered to stand alongside of. Crafty won nearly all she could, including the chief honours of the Royal Agriculture Society and the first prizes of the Great Yorkshire Society three years in succession; while, we believe, she was exhibited occasionally subsequent to 1866.

THE JURY SYSTEM.

At a special general meeting of the Warwickshire Chamber of Agriculture, at Coventry, to consider the hardships of the present jury system, and what remedial measures could be suggested for the improvement of the Jury Law, as well as the practice of its administration, and to transact other business, Sir R. N. C. Hamilton, Bart., the president, in the chair,

Mr. R. ROBBINS, of Kenilworth, read a paper, in which he passed in review the trial by jury for many centuries past. He said that trial by jury was universally admired and was very ancient. It at least appeared to have been coeval with the civil government of the country. Traces of juries might be found in all the nations which adopted the feudal system, and in England actual mention was made of them as early as the time of King Ethelred, and even then not as a new invention. He then mentioned the qualifications of special jurors, grand jurors, and petty jurors. The legislature had on former occasions altered the jury laws for the convenience of parties suffering hardships under them, even so far back as the birth of the first Prince of Wales in the reign of Edward the First. At that time it was inconvenient to compel parties, witnesses, and jurors to attend the Courts of Westminster, and other legislative enactments had met the wants of successive years, and the Act 33 and 34 Vict., chap. 77, was passed for the purpose of saving the convenience of jurors. The Attorney General had brought in a Bill to repeal the 22nd section of the Act which provided that jurors in civil cases should receive remuneration for their services. As far as he was aware the following were some of the objections to the present jury system: The number of days of attendance consecutively; the uncertainty and suspense during such attendance which paralysed the juror's own business, and sometimes to a serious extent; the summoning more than one partner in a firm on the same day; the allowance in the civil actions of only 10s. to common jurors, £1 1s. to special jurors; and in criminal cases there was no allowance at all. He would suggest that in case of allowance to jurors they should be sworn on the 1st of May, and enabled to claim the allowance, and not kept in suspense several days with only a formal vote of thanks. No one wished, he was sure, to escape from performing less than his fair share of his duty, but all were opposed to a practice of inflicting upon a few persons serious inconvenience and loss whilst others escaped. He concluded by expressing a hope that they would state their opinions on the subject and make some suggestions with a view to lessen the hardships inflicted on the jurors.

Mr. WAKEFIELD thought that it was unfair that some gentlemen should be frequently summoned on the jury, whilst others were not called upon to act for a great many years. He mentioned that one person whom he knew had served several times on the jury in three years, whilst another, in the same district, had not been called upon once in twenty years.

Mr. FOSTER also mentioned similar irregularities in the summoning of the jury.

The CHAIRMAN said that with reference to the summoning of the juries he thought that a great deal of the responsibility rested with the overseers and churchwardens, but other residents of the parish were at liberty to see that the overseers' list was properly filled up. He knew an instance in which a gentleman had been returned for one parish while he lived in and ought to have been returned for another. He then spoke of the qualification of a juror, and went on to state that no person could legally be summoned to serve on a jury more than once in one year, unless the whole of the persons returned by the overseers had already once served. There were in this county thirty-six special jurors; and two panels of common jurors of seventy-two each, which involved the summoning of one hundred and forty-four men besides the special jurymen. There was no power in the act given to the sheriff to dispense with the services of any one of the jurors summoned. He thought an act might be passed empowering him to discharge any juror after two days' attendance in court. At the last winter assizes, when the calendar was not a heavy one and only one court sitting, the same number of jurors had to be summoned, the services of many of whom were not required, still they were kept in attendance several days and could not be discharged.

Mr. J. H. BURBURY inquired if all the 144 jurors were summoned on that occasion.

The CHAIRMAN said he could not say, but he understood that it was not the intention of the sheriff to summon more than 72 jurors for the winter assizes, unless the calendar was an unusually heavy one. He hoped that some resolution would be passed on the subject, and that the section limiting the attendance to once a year would be enforced.

Mr. CALDECOTT said that thirty-six jurors could be summoned for the first two days and another thirty-six for the next two. He had drawn up some resolutions which expressed his views upon the general question, but he did not know whether they would meet with the approval of the meeting; they were as follows: "That Grand Juries, both at Assizes and Quarter Sessions, are no longer needed as a safeguard of the liberty of the subject, and as now in practice, more likely to impede than to forward the ends of justice, and, therefore, ought to be abolished. That the number of twelve for every jury, is unnecessarily large, that especially in ordinary civil causes, a number not more than seven would be ample, and would relieve the class of jurors from a considerable portion of the annoyance of protracted attendance at the Courts. That from the experience of the members, there has been great irregularity in the summoning of jurors, and that there are no means available for ascertaining whether the jury list has been exhausted, before the jury has a second summons; and that in the opinion of this Chamber the jury lists returned by overseers should have a column showing the last date of service of each person, and that the county jury lists should be printed by the clerk of the peace, and copies sent to every Board of Guardians, and also be purchaseable at a reasonable price by the public. That it would be of great relief to jurors generally if the sheriff or other summoning officer would act upon the power given in section 21 of the Jurors' Act, 1870, and divide the jury panels summoned, so as to provide relays every second day instead of compelling the whole to attend from the commencement of the Assizes or Sessions. That persons ought to be remunerated, but as the Attorney-General has stated his intention to introduce a bill on the subject, no immediate action is needed by this Chamber. That the deputation from this Chamber to the Central Chamber on the 7th proximo be instructed to lay these resolutions before the Central Chamber with a view to the same being the subject of discussion at their next meeting." Mr. Caldecott went on to state that in the course of the whole of his experience he only, in one instance, found a Grand Jury necessary.

Mr. FOSTER did not approve of persons who were unable to read or write being summoned on the jury, as he considered they were incapable of weighing the evidence, and of giving a proper verdict. He had served on a jury on which there had been an uneducated person, and if that juror had been asked to give a verdict at the conclusion of the address from the Counsel for the prosecution, he would have given a verdict against the prisoner, but if asked at the end of the speech of the Counsel for the prisoner, he would have given a verdict of not guilty.

Mr. J. H. BURBURY alluded to an occasion when he and other gentlemen had to serve on the grand jury, and not one of whom knew how to proceed with the business, not having served on that jury before, and they had to inquire of the officer of the court for information as to the forms they had to go through. He thought the grand jury system was a complete farce.

Several of the members present thought that the system was a useless one.

Mr. BURBURY asked what number the county court juries were composed of.

Mr. CALDECOTT replied that the number was five. He had, however, in the resolution he had drawn up, limited the number to seven, but it did not follow that it should not be less.

On the motion of Mr. Robbins, seconded by Mr. Wakefield, the resolutions drawn up by Mr. Caldecott were unanimously adopted.

The Coroners' Bill introduced into the House of Commons by Mr. Goldney was next considered, and it was resolved, on the motion of Mr. J. Ford, seconded by Mr. Burbury, "That the Central Chamber be requested to take action to oppose the clauses of the Coroners' Bill, introduced by Mr. Goldney, which will impose additional permanent charges on the county rates, and in nowise remedy the objectionable mode of appointment, or the means of dismissal for misconduct."

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The monthly meeting of the directors was held on Wednesday, March 1, George IV. Bridge, Edinburgh, Major Ramsay, of Barrs, in the chair.

The minutes of the Special Committee, 11th January, recommending that the board should authorise the Secretary to pay the railway return fare of all such directors as may claim it for the days they have attended the meetings of the Society—and which was under consideration at the directors' meetings on the 18th of January and 1st February—was before the board.

It was moved by Mr. HOG, Newliston, and seconded by Sir THOMAS BUCHAN HEPBURN, that the board do not agree to the recommendation.

It was moved by Mr. MITCHELL, Alloa, and seconded by Mr. DICKSON, Corstophine, that the minute be approved of.

The motion of Mr. Hog was carried, and the payment of railway expenses to directors refused.

The SECRETARY reported that a meeting of the Special Committee on the General Improvement of Land in Scotland had been held on the 15th of February, when all the members of the committee were present, with the exception of Mr. Young, Keir Mains, from whom letters were read stating his inability to act on the committee. A memorandum on the subject prepared by the Marquis of Tweeddale was read to the committee. It was resolved that a copy of the Marquis' memorandum should be sent to each member of committee for consideration, and that the meeting should be adjourned till a future day convenient for his Lordship, by which time it was hoped that each member of committee would be prepared with his own views of the best mode of improving land, and of the course to be recommended to the directors.

FRENCH PEASANT RELIEF FUND.—Mr. F. N. MENZIES stated that, in accordance with the instructions given him at the last board meeting, he had sent circulars to the secretaries of all the local agricultural associations in correspondence with the Society. Several of these societies had already sent up subscriptions, which had been handed to the honorary treasurer of the Edinburgh Committee, and he believed from the correspondence he had had that many more would be forthcoming.

CHEMICAL DEPARTMENT.—The following letter from Mr. Latta, addressed to Dr. Anderson, the Society's chemist, was submitted; and the Secretary was instructed to return it to Dr. Anderson, requesting him to carry out the proposed investigation:

Carmyle Farm, Tollcross, Glasgow, 13th Feb., 1871.

Dear Sir,—As a member of the Society, and agreeably to the directions given in the Transactions, I beg to submit to you the following suggestion for an investigation and report, to be laid before the Chemical Committee, unless the subject has already been exhausted by you. On this farm, and the lands adjoining for many miles around, the "scab" in potatoes has been a constant source of loss and anxiety to the growers. Potatoes are very extensively grown in this district, and have been for a great many years, the soil being well adapted for their growth, and in the neighbourhood of an excellent market. For some time past, however, the value of the crop has been greatly deteriorated by the prevalence of scab, which has had the effect of depreciating those affected by it at least £1 per ton. This upon otherwise first-rate potato land is equal to a loss of about £10 per acre, which, as I myself grow about 40 acres annually, and others in proportion, becomes a heavy drawback upon farming in this locality. The land comprises a variety of soils; but the disease is prevalent on all of them, more particularly the light soils. The weather does not appear to affect it materially, although the late dry seasons have somewhat aggravated it. Pasturing again has been resorted to, but without success, a field on this farm which had been in grass for nine or ten years being as bad as the others. On the other hand, a field on the opposite side of the hedge, of precisely the same nature, but, if anything, of a poorer description, which had been under wood for probably 100 years, produced in the same season potatoes without a speck of scab. I am inclined to think, therefore, that the cause of the disease must be a deficiency in the soil of some material constituent necessary for the healthy growth of the crop, and which, ab-

stracted by excessive cropping, it may be possible to replace by the aid of science. I may mention that farmyard manure in large quantities is chiefly used for the crop, but guano, dissolved bones, and other artificial manures, have also been tried without appearing to have any effect on the disease. I would respectfully suggest, therefore, that the Chemical Committee should authorise you to make the necessary inquiry into the above subject with a view to a remedy, and I shall be happy to afford you all the assistance and information in my power.

Yours faithfully, **MATHEW RODGER LATTA.**

At the meeting of the directors on the 1st of February, it was remitted to the Committee on General Shows and Machinery to take into consideration the motion made by Mr. Munro, Fairnington, at the general meeting on the 18th of January. The joint committees met on the 23rd of February, when there were submitted to them, along with Mr. Munro's motion, the reasons assigned in favour of the discontinuance of premiums for implements in 1873, and the suggestion then made as to the future means of encouraging and bringing forward machinists of ingenuity and genius. The report was submitted to the directors. It states that the joint committees having carefully considered the subject remitted to them, and having heard the opinion of Mr. Munro, Professor Wilson, Mr. Gibson, Mr. Dickson, Mr. Hunter, and other members, now beg unanimously to recommend—1. That the present system should be continued, the principal rules in existence being—first, that the articles of each exhibitor are all placed at one stand; second, the inspecting committees are instructed to award silver medals as they may deem proper for general collections, new inventions, or radical improvements, where a trial is not practicable; third, when an implement or a machine is supposed to embrace a new invention, or radical improvement, the nature of such is required to be specified in the entry, to enable the directors to order an inspection with a view to a trial. Such trial, when recommended by the inspecting committee, is instituted in a convenient locality, and at a season of the year suitable for the operation of the implement or machine, which, when thoroughly tested, is entitled to such a premium as the directors may see fit to award, on the report of the judges employed by them. 2. That in addition it shall be competent for the local committee at the general show to select any description of implement they think proper for special trial. Such trials shall be conducted by the said local committee, who shall undertake the whole arrangements for carrying out the same at a period of the year they consider suitable. 3. The directors shall award such money prizes or medals on account of the competitive trials as may be arranged with the local committee.

The board approved of the recommendations by the joint Committees on General Shows and Machinery, and the new arrangement will be tried at the Perth Show in July next.

THE BATH AND WEST OF ENGLAND SOCIETY, AND SOUTHERN COUNTIES ASSOCIATION.

A meeting of the Council was held on Tuesday, February 28, at the White Lion Hotel, Bristol. The Earl of Cork and Orrery presided, and there were also present Sir J. T. B. Duckworth, Bart., the Hon. and Rev. S. Best., Hon. and Rev. J. T. Boscawen, Messrs. R. G. Badcock, R. Bremridge, C. and R. H. Bush, J. T. Davy, A. F. Milton Druce, R. B. M. Daw, F. W. Dymond, C. Edwards, M. Farrant, H. Fooker, F. Gill, Jonathan Gray, J. Hole, H. P. Jones, J. E. Knollys, J. F. Lennard, H. A. F. Luttrell, H. St. John Maule, G. S. Poole, G. Shackell, A. Thynne, R. Trood, Herbert Williams; H. Spackman (Official Superintendent), W. Smith (Official Accountant), and J. Goodwin (Secretary and Editor).

A letter was read from the Registrar of the Royal Dublin Society, announcing that in accordance with a bye-law recently passed, the President of the Bath and West of England Society is *ex officio* an hon. member of the Royal Dublin Society. The communication was ordered to be entered on the minutes, and the Secretary was directed to write a letter of acknowledgement and thanks.

The Earl of Portsmouth having offered a prize of £10 for the best Hampshire Down ram-lamb shown at Guildford, and

Mr. A. Morrison, of Southill, a prize of £6 for the second best animal of the same class, the prizes were accepted with thanks, and the class was ordered to stand in the prize-sheet.

Mr. Herbert Williams, Chairman of the Finance Committee, brought up the statement of accounts for the year ending December 31st, 1870, showing, in round number, a balance of £1,400 in favour of the Society, and an additional sum was ordered to be invested in Consols, so as to bring up the amount of the Society's funded stock to £7,100.

The Council decided that henceforth no advertisements, excepting those relating exclusively to the business of the Society, be inserted in the *Journal*.

A letter was read from the Town Clerk of Dorchester, stating that the Local Committee are prepared to treat definitively with the Society in reference to the meeting of 1872, and a deputation of the Council was appointed to visit Dorchester and confer with the local authorities on the 13th of April.

The contract of Messrs. Fry and Son, of Bath, for the erection of the Society's Shedding and Hoarding for a term of five years was reported to have been duly executed; and the tender of Messrs. Piggott, Brothers, of London, for the supply of canvas for a similar term was accepted.

On the recommendation of the Arts Committee the Council made a grant of £50 towards prizes to be offered at Guildford for Hinton lace designs and work.

The expenses of the Horticultural Department at Taunton having proved to be considerably greater than at any former meeting an additional sum of money was granted for the purpose of meeting the same.

The Stewards of Plant were authorised to engage a suitable person as permanent assistant storekeeper.

The following new members were elected: H. D. Barclay, Eastick Park, Surrey; C. Best, R.N., Abbott's Ann Andover; G. Churchill, Aldershot Park, Fordingbridge; Rev. H. Combs; J. Davey, Croft-hole, Devonport; Colonel F. Davis; J. Deller, Greywell, Odiham, Hants; T. Fenn, Estate Offices, Downton Castle, Ludlow; C. J. Louch, Avington, Winchester; B. Marshall, Godalming; J. A. Mumford, Chilton Park Farm, Thame, Oxon; C. H. Mills, M.P., Wildernesse, Sevenoakes, Kent; C. McNiven, Perryfield, Godstone; S. Sewan, Weston, Peterfield, Hants; Rev. B. Sellwood, Shute Parsonage, Axminster; Colonel H. Splatt; J. Stubbs, West Tister, Alresford, Hants; F. Shute; Colonel Thompson; P. Turner, The Lea, Cambridge, Leamington; J. Wright and Co., Broad-street, Islington, Birmingham; and T. W. Wedlake, Union Foundry, Hornechurch.

THE JOURNAL OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

The first Part for the present year has just been issued, and is now in the course of circulation amongst the members. The new editor evinces no lack of energy, but, on the contrary, he rather warms to his work, as a fair fourth of the material in the new number—that is, seventy-five pages in three hundred—is from his own pen. This paper, giving the experience of a tour in the north, is termed a "Report on some Features of Scottish Agriculture;" and although there is not much fresh matter to be gathered over such well-worn ground as Peaton Barns and Tillyfour, the composition of the article evinces great zeal and industry; whilst Mr. Jenkins speaks out pretty plainly against the standard abuses of Scotch farming, such as the law of hypothec, and the letting of land by tender. Again, the editor's own address at the Society of Arts, and more especially Mr. Coleman's able exposition at the Farmers' Club, have quite taken the sting out of Mr. Gilbert Murray's contribution to the present Part on "Cheese Factories in Derbyshire," as Professor Voelcker, in a recent lecture, has also, in a degree, anticipated something of that he has to say here on "Sugar-beets and Beetroot Distillation." But the Professor does well in other ways; and his annual report, as

the consulting chemist of the Society, should sorely shame the veterinary profession into making some sign beyond mere excuses, or roundabout papers leading to nowhere. The meetings which we have continued to report in our columns during the last year or so as taking place at Southampton and the Botley Farmers' Club, on the proposed inclosure of the New Forest have, again, rendered the article by the secretary of the Botley Farmers' Club on "the Agricultural Capabilities of the New Forest" somewhat familiar; but the subject is very elaborately handled, and it is, moreover, satisfactory to see that the writer arrives at a very sound conclusion as to the best means of developing the uses of the Forest, viz., "By cutting it up into small estates, each possessing a favourable site for building, and consisting, if possible, partly of wooded and partly of waste land." Mr. Lawes himself never tires of talking of the crops at Rothamsted, now *apropos* of "the Drought," while Mr. Turner, C. E., writes on "Lime-burning," and there are sundry tabulated returns and other such statistical information with which it has been the fashion of late to set off the *Journal*. The freshest and most telling paper of all would certainly look to be the opening one on "American Butter Factories," by Mr. Willard, M.A., of New York, a story which may start our dairy-farmers off in another direction. The article, however, is absolutely disfigured by an infinity of line-headings, page after page, when surely the titles to the several woodcuts would have been sufficient "diversion." This practice of cutting up a magazine essay into little bits or paragraph chapters is alike uninviting to the reader and detrimental to the writer; while it must play the very dickens with anything like style or connection, and is generally the resource of a very raw or very feeble penman. The new number is altogether a very fair one, if a trifle tame when put into comparison with some of its immediate predecessors.

THE WOODBRIDGE HORSE SHOW.

There was a capital entry of fifteen cart stallions, including a number of horses well-known in the prize-ring. The fine action, however, of Cup Bearer, a purchase at the late Mr. Crisp's sale at a long price, readily placed him first, as Royal Prince was a good second; but the judges lingered terribly over the award of the third premium, each of the three holding to a horse of his own. Oxford Emperor, the Dennington Young Cup Bearer, and Mr. Wilson's Bismarck were kept in the ring until the public became very impatient. Of the thorough-bred horses, Wellington, an own brother to Athena, did not appear, and Defender had an easy victory over Mr. Barne's Benvoglio, by Oulston. Defender, a black-brown five-year-old by Gunboat, is sure to be heard of again about the country during the summer. Of the hackney stallions Mr. Grout's Sportsman was a long way the best, the entry against him being neither strong in numbers nor merit. The whole business was well conducted.

PRIZE LIST.

JUDGES.—N. G. Barthropp, Yarmouth.
D. Sewell, Beaumont Hall, Colchester.
R. H. Wrinch, Harkstead.

Suffolk cart stallions.—First prize, £10, R. Garrett, Carlton (Cup-bearer); second, £6, C. Boby, Alton (Royal Prince); third, £4, I. Rist, Tittingstone (Oxford Emperor).

Thorough-bred stallions.—The prize of £5, Major Barlow, Hasketon (Defender).

Hackney stallions.—The prize of £5, J. Grout, Woodbridge Sportsman).

FRENCH PEASANT FARMERS' SEED FUND.

At a meeting of the committee of the Mansion House French Relief Fund held on Friday, March 17, Mr. Geo. Moore read a letter from Mr. Bullock, appealing for aid in seed corn for the districts of Sedan and St. Quentin; he then stated that he had requested Mr. H. M. Jenkins, one of the honorary secretaries of the French Peasant Farmers' Seed Fund, to attend the meeting of the committee, for the purpose of explaining what had been done by Lord Vernon's committee for the relief of the French peasant farmers, so that they might consider the expediency of making a grant for the districts mentioned by Mr. Bullock. Mr. Jenkins stated that the wants of the St. Quentin district had been so urgently pressed upon Lord Vernon's committee that they had instructed their representative at Amiens to relieve them as far as the corn at his disposal would allow, and that they had made a supplementary grant of 500 quarters of barley to enable him to do this more effectually; but that the requirements of the district were far beyond the means they had at command. With regard to Sedan, he stated that as the *Daily News* fund had expended about £14,000 in that neighbourhood, and the Belgian seed-corn committee had undertaken the relief of the Department of the Ardennes and the surrounding region, in which Sedan is situated, Lord Vernon's committee did not propose to do anything in that quarter, more especially as some other Departments, notably the Seine Inferieure and the Eure, were in very great want, and had hitherto received no assistance of any kind. After some conversation it was resolved to place a further sum of £3,000 at the disposal of Lord Vernon's committee, for the purchase of seed, especially oats and potatoes, for distribution in such parts of France as most require assistance, and that a copy of Mr. Bullock's letter be sent to them for consideration.

During the past week the Executive Committee have met three times, and for the past fortnight the Committee and the honorary officers have been busily employed in making the most of the sowing season. At the present moment we believe that all the spring wheat, whether purchased or given, amounting to more than 3,500 quarters, is now in France, and a large portion of it is actually in the ground. About 1,250 quarters of barley, and the same amount of oats, are also in course of distribution, and the remainder in each case is being forwarded as rapidly as possible. The total shipments of each kind of grain ordered for distribution, and the districts for which they are intended will be as follows:

	Wheat.	Barley.	Oats.	Potatoes.
	Qrs.	Qrs.	Qrs.	Tons.
Somme and Aisne (Amiens and St. Quentin).....	1,000	1,000	1,500	300
Seine et Oise, Seine et Marne, and Oise	1,000	1,000	1,500	200
La Beauce (Tours, Orleans, Blois, &c.)	1,500	1,000	1,000	200
Eure and Seine, Inferieure (lately undertaken).....	—	300	500	200

In addition to these supplies some considerable consignments from Scotland are being distributed in the neighbourhood of St. Quentin; and a cargo of oats and barley, the cost of which is to be divided between this fund and the War Victims' Fund, is destined for the district of La Beauce, which is terribly in want of seed corn and potatoes, and which will probably be still further aided by a donation from Ireland.

The committee have specially chartered two steamers for conveying the corn to the district of La Beauce, and during the past fortnight these vessels have made satisfactory passages between London and Honfleur; while they have also employed a chartered steamer to convey grain intended for the districts mentioned in the first two columns to the dépôt at Boulogne, which is under the charge of General Sir Vincent Eyre, K.C.B.; besides forwarding large quantities in the ordinary Boulogne boats.

The headquarters and the names of the representatives of the Society are, in the order mentioned above, Mr. Sartoris at Amiens, Mr. Furley in Paris, and Colonel Elphinstone at Tours. The fourth district was only undertaken on Saturday,

in consequence of the further grant of £3,000 from the Lord Mayor's Committee; but it will probably be in full working order before the end of the week.

Taking into account the difficulty of transporting large supplies of material through a country so recently in a state of war, the French Peasant Farmers' Seed Fund is undoubtedly fortunate in having been able to forward so much seed-corn up to the present time. This is in great measure due to the energy of Sir Vincent Eyre, at Boulogne, and of Mr. Lewis, at Honfleur. At the former place, piles of merchandise wait their turn for days and weeks, while the English gift goes carriage free in preference to all comers; and at Honfleur, the railway was no sooner repaired than the seed-corn of the Société Anglaise was on its way to Tours.

THE CARRIAGE OF SEEDS BY POST PARCEL.

At the Postal Reform Conference, at the Society of Arts, Mr. DEANE, the secretary of the Seed Trade Association, moved a resolution as follows: "That there should be three different principles or rates of charging, one for letters, one for all periodicals, without reference to the length of the period of publication, and whether stitched or unstitched, and one for parcels of all kinds of matter not dangerous, with such limit of bulk and weight as may be found convenient." There was no necessity for dwelling upon the first point of the resolution, viz., that there should be three different principles or rates for charging, inasmuch as this had been fully gone into by the chairman. But upon the third point—that there should be one rate for parcels of all kinds, not dangerous—he had a word or two to say, representing, as he did, a body upon whom the regulations which came into force on the 1st of October last had fallen with very great weight, viz., the seed trade. Previously, they had enjoyed the great privilege of sending to all parts of the country and abroad parcels of seeds at sample rates, although they were goods in execution of an order. In the case of the colonies, the East Indies, and the United States, that privilege had tended to develop to a great extent a valuable source of industry, for as seedsmen they found, year by year, that the orders received from those places were being considerably augmented. There were difficulties connected with the climate and other matters which interfered with the production of new and choice varieties of seeds and plants in the countries he had referred to, and it was an incalculable advantage to their correspondents in these localities that they should be able to receive, as quickly as possible, from England the contributions of the most talented horticulturists. Orders for seeds from these places, therefore, were being constantly received, and the great advantage of being able to send them by post consisted in this, that they were easily and quickly delivered. The fact that they were prepaid prevented any delay when they reached their destination. There was no Custom-house examination necessary, and no occasion for their being laid by in damp warehouses, to await orders being sent up the country, but they were delivered immediately, and in good condition, and this was of considerable importance, for many valuable kinds of seeds were speedily injured if allowed to lie about subject to atmospheric influences. The Post-office authorities have now set up this kind of barrier, that samples might be sent, but not seeds of value; but he should like to ask the Postmaster-General, or any official, how he was able to decide what were seeds of value, and what were samples. Even seedsmen themselves would very often find it exceedingly difficult to decide such a question, and he might state that, notwithstanding the recent regulations, the seed trade had continued to send their parcels through the post, and very seldom indeed were they challenged or interfered with, notwithstanding the regulations were constantly violated. Probably the Post-office authorities felt what a difficulty there was in deciding the point. Now and then a parcel was surcharged, but very seldom. The resolution was eventually put and carried in this way: "That there should be only three different principles of rates of charging, one for letters, one for all newspapers, without reference to length of publication, and whether stitched or unstitched, and one for parcels of all kinds of matter (not dangerous), with such limit of bulk and weight as may be found convenient."

AGRICULTURAL MEETINGS IN 1871.

- APRIL 1.**—Lauderdale Agricultural Society.—Meeting at Lauder. Entries close March 27. President, The Earl of Lauderdale. Secretary, Mr. Thos. Broomfield, Lauder.
- APRIL 11, 12, 13, 14, and 15.**—Royal Dublin Society.—Spring Show in Dublin. Entries closed. President, The Lord Lieutenant of Ireland. Superintendent, Mr. Andrew Corrigan, Dublin.
- APRIL 25 and 26.**—Ayrshire Agricultural Society.—Meeting at Ayr. Entries close April 11. President, The Earl of Glasgow. Secretary, Mr. James M'Murtrie, Ayr.
- MAY 10 and 11.**—Glasgow Agricultural Society.—Meeting in Glasgow. Entries close April 29. Secretary, J. Dykes, Junr., St. Vincent-street, Glasgow.
- MAY 29, 30, 31, and JUNE 1 and 2.**—Bath and West of England Agricultural Society and Southern Counties Association.—Meeting at Guildford. Entries close for Implements and Stock, April 12; for Poultry, May 8. President, The Earl of Cork and Orrery. Secretary, Mr. Josiah Goodwin, 4, Terrace-walk, Bath.
- JUNE 13 and 14.**—Warwickshire Agricultural Society.—Meeting at Rugby. Entries close for Stock May 1st, for implements May 27th. President, the Earl of Warwick. Secretary, Mr. John Moore, Warwick.
- JUNE 14.**—Thorne Agricultural Society.—Meeting at Thorne. Entries close June 3. President, H. W. Godfrey, Esq. Secretary, Mr. Richard Micklethwaite, Thorne.
- JUNE 14 and 15.**—Royal Cornwall Agricultural Society.—Meeting at Truro. Entries close May 17. President, Lieut.-Col. Archer. Secretary, Mr. Henry Tresawna, Lamellyn, Probus.
- JUNE 15 and 16.**—Essex Agricultural Society.—Meeting at Romford. Entries close May 15. President, David M'Intosh, Esq. Secretary, Mr. Robert Emson, Halstead.
- JUNE 21, 22, and 23.**—Hants and Berks Agricultural Society.—Meeting at Portsmouth. Entries close May 20. President, Lord Northbrook. Secretary, Mr. Henry Downs, Basingstoke.
- JUNE 21 and 22.**—Norfolk Agricultural Society.—Meeting at East Dereham. Entries close May 20. President, OIare Sewell Read, Esq., M.P. Secretary, Mr. John Cross, Surrey-street, Norwich.
- JUNE 22 and 23.**—North-East Agricultural Association of Ireland.—Meeting at Belfast. Entries close for Stock, May 20; for Implements, June 3. President, Lord Lurgan. Secretary, Mr. G. G. Bingham, Ulster-buildings, Belfast.
- JUNE 28 and 29.**—Royal Jersey Agricultural Society.—Meeting at St. Heliers, Jersey. Entries close for implements May 13, for stock June 1. President, Charles Philip Le Cornu, Esq. Secretary, Mr. Albert Le Gallais, Jersey.
- JULY 4.**—Ripon and Claro Agricultural Society.—Meeting at Ripon. Entries close June 22. President, The Earl de Grey and Ripon. Secretary, Mr. John Wood, Ripon.
- JULY 6 and 7.**—Suffolk Agricultural Association.—Meeting at Beccles. Entries close June 10. President, Colonel Sir Alexander Shafto Adair. Secretary, Mr. R. Bond, Butter Market, Ipswich.
- JULY 10, 11, 12, 13, and 14.**—Royal Agricultural Society of England.—Meeting at Wolverhampton. Entries close for Implements May 1; for Stock, June 1; entries for Farms closed. President, Lord Vernon. Secretary, Mr. H. M. Jenkins, Hanover-square, London. (The Meeting of the Staffordshire Agricultural Society will this year merge into that of the Royal Agricultural Society.)
- JULY 19, 20, and 21.**—Lincolnshire Agricultural Society.—Meeting at Brigg. Entries close June 19. President, Colonel J. D. Astley. Secretary, Mr. S. Upton, St. Benedict's-square, Lincoln.
- JULY 20.**—Bedfordshire Agricultural Society.—Meeting at Bedford. Entries close July 1st. President, James Howard, Esq., M.P. Secretary, Mr. Thomas Lester, St. Peter's Green, Bedford.
- JULY 26.**—Thirsk Agricultural Society.—Meeting at Thirsk. Secretary, Mr. George Freeman, Thirsk.
- JULY 26, 27, and 28.**—Highland and Agricultural Society of Scotland.—Meeting at Perth. Entries close June 16. President, The Marquis of Tweeddale. Secretary, Mr. F. N. Menzies, George IV. Bridge, Edinburgh.
- AUGUST 2, 3, and 4.**—Yorkshire Agricultural Society.—Meeting at York. Entries for Stock and Implements close July 1; for Farms, August 1. President, Lord Wenlock. Secretary, Mr. Thomas Parrington, Croft, Darlington.
- AUGUST 8, 9, 10, and 11.**—Royal Agricultural Society of Ireland.—Meeting on Stephen's Green, Dublin. Entries close July 8th. President, H. B. H. the Prince of Wales. Secretary, Captain Thornhill, Upper Sackville-street, Dublin.
- AUGUST 15, 16, 17, and 18.**—Birmingham and Midland Counties Horse Show in Bingley Hall. President, Earl Beauchamp. Secretary, Mr. J. B. Lythall, New-street, Birmingham.
- AUGUST 26.**—Halifax and Calder Vale Agricultural Society.

- Meeting at Halifax. Entries close August 12. President, Colonel Stansfeld. Secretary, Mr. William Irvine, 18, Cheapside, Halifax.
- AUGUST 29, 30, and 31.**—Gloucestershire Agricultural Society.—Meeting at Cheltenham. Entries close July 17. Secretary, Mr. E. W. Trinder, Cirencester.
- AUGUST 30.**—Wirral Agricultural Society.—Meeting at Birkenhead. Entries close August 5th. President, John Laird, Esq., M.P. Secretary, Mr. William Henderson, jun., Market Cross, Birkenhead.
- SEPTEMBER 5, 6, and 7.**—Manchester and Liverpool Agricultural Society.—Meeting at Liverpool. Entries close August 1. President, The Earl of Derby. Secretary, Mr. Thomas Rigby, Winsford, Cheshire.
- SEPTEMBER 8.**—Cleveland Agricultural Society.—Meeting at South Stockton. Entries close August 23rd. President, Joseph Dodds, Esq., M.P. Secretary, Mr. Henry J. Curry, Stockton-on-Tees.
- SEPTEMBER 13.**—Wayland Agricultural Association.—Meeting at Wayland. President, Lord Walsingham. Secretary, Mr. R. Robinson.
- SEPTEMBER 14.**—Waterford Agricultural Society.—Meeting at Waterford. Entries close Sept. 7. President, The Marquis of Waterford. Secretary, Mr. R. S. Blee, Waterford.
- SEPTEMBER 15.**—Carmarthenshire Agricultural Society.—Meeting at Carmarthen. Entries close Sept. 2. President, E. J. Sartoris, Esq., M.P. Secretary, Mr. D. Prosser, White House, Carmarthen.
- SEPTEMBER 15.**—Cheshire Agricultural Society.—Meeting at Northwich. Entries close September 1. President, Arthur Smith Barry, Esq. Secretary, Mr. John Beckett, Pool Cottage, Oulton, Tarporley.
- SEPTEMBER 20 and 21.**—Glamorganshire General Agricultural Society.—Meeting at Merthyr Tydfil. Entries close August 22. President, The Marquis of Bute. Secretary, Mr. Wm. V. Huntley, Welsh St. Donatt's, Cowbridge.
- SEPTEMBER 20 and 21.**—Northamptonshire Agricultural Society.—Meeting at Peterborough. Entries close August 12. President, The Hon. G. Wentworth Fitzwilliam. Secretary, Mr. John M. Lovell, Harpole, Weedon. [The Meeting of the Peterborough Society merges this year into that of the Northamptonshire Society.]
- SEPTEMBER 21.**—Tarporley Agricultural Society.—Meeting at Tarporley. Entries close September 11. President, The Earl of Haddington. Secretary, Mr. W. Vernon, Tarporley.
- SEPTEMBER 27.**—Huntingdonshire Agricultural Society.—Meeting at St. Ives. Entries close September 12. President, Arthur Sperling, Esq. Secretary, Mr. James Dilly, Huntingdon.
- SEPTEMBER 30.**—Lauderdale Agricultural Society.—Meeting at Lauder. Entries close September 25. President, The Earl of Lauderdale. Secretary, Mr. Thos. Broomfield, Lauder.
- OCTOBER 9.**—Ludlow Agricultural Society.—Meeting at Ludlow. Entries close September 25. President, William Blakeway, Esq. Secretary, Mr. Thomas Weyman, Ludlow.
- OCTOBER 17 and 18.**—Herefordshire Agricultural Society.—Meeting at Hereford. Entries close September 18. President, M. Clive, Esq. Secretary, Mr. J. T. Owen Fowler, Hereford.
- OCTOBER .**—Ayrshire Agricultural Society.—Meeting at Kilmarnock. President, The Earl of Glasgow. Secretary, Mr. James M'Murtrie, Ayr.
- NOVEMBER .**—Framlingham Farmers' Club.—Meeting at Framlingham. Entries close November 1. President, F. S. Corrance, Esq., M.P. Secretary, Mr. W. B. Kent, Earl Soham, Wickham Market.
- NOVEMBER 22 and 23.**—Rutland Agricultural Society.—Meeting at Oakham. Entries close November 6. President, Charles Winston Eaton, Esq. Secretary, Mr. E. Wortley, Ridlington, Uppingham.
- NOVEMBER 23 and 24.**—Chippenham Agricultural Society.—Meeting at Chippenham. Entries close November 17. President, Sir John Neild, Bart. Secretary, Mr. Edward Little, Lanhill, Chippenham.
- NOVEMBER, 25, 27, 28, 29, and 30.**—Birmingham and Midland Counties Cattle and Poultry Show in Bingley Hall, Birmingham. Entries close November 1. President, Earl Beauchamp. Secretary, Mr. T. B. Lythall, New-street, Birmingham.
- DECEMBER 4, 5, 6, 7, and 8.**—Smithfield Club Fat Cattle Show, in the Agricultural Hall, Islington.—Entries close for Implements October 2; for Stock, November 1. President, The Marquis of Exeter. Secretaries, Mr. Brandreth Gibbs and Mr. David Pullen, Half-moon Street, Piccadilly.
- DECEMBER 5, 6, and 7.**—Yorkshire Fat Stock Show, at York.—Entries close November 18. President, The Earl of Zetland. Secretary, Mr. John Watson, Lendal Bridge, York.
- DECEMBER 6, 7, 8, and 9.**—Royal Dublin Society.—Christmas Fat Stock Show in Dublin. President, The Lord-Lieutenant of Ireland. Superintendent, Mr. Andrew Corrigan, Dublin.

DECEMBER 7.—Rugby and Dunchurch Fat Stock Show, at Rugby.—Entries close November 23. President, The Earl of Dalketh. Secretary, Mr. Edmund Harris, Rugby.
DECEMBER 12 and 13.—Tredegar Agricultural Show.—Meeting at Newport, Monmouthshire. Entries close November 15. President, Lord Tredegar. Secretary, Mr. J. G. Palling, Newport.
DECEMBER 12, 13, and 14.—West of England Fat Stock Show. Meeting at Plymouth. Entries close Nov. 1. President, the Earl of Morley. Secretary, Mr. John Moon, Athenaeum-lane, Plymouth.
DECEMBER 15.—Carmarthen Cattle and Poultry Show.—Meeting at Carmarthen. Entries close Dec. 2. President, E. J. Sartoris, Esq., M.P. Secretary, Mr. D. Prosser, White House, Carmarthen.

PEDIGREE STOCK SALES IN 1871.

APRIL 5.—At Gaddesby, Leicester, Shorthorns from Mr. E. H. Cheney's herd. By Mr. H. Strafford.
APRIL 5.—At Gloucester, Mr. Woodward's Young Shorthorn Bulls. By Weaver and Moore.
APRIL 13.—At Yorton Villa, Shrewsbury, Mr. Nevett's Shorthorn herd. By Mr. W. G. Preece, Shrewsbury.
APRIL 20.—At Stanwick, Darlington, Mr. J. Wood's Shorthorn herd. By Mr. J. Thornton, Langham Place, London.
APRIL 21.—At Gainford Hall, Haughton-le-Skerne, Dar-

lington, Mr. D. Nesham's Shorthorn herd. By Mr. J. Thornton.
APRIL 26.—At Whitewell, Clitheroe, Mr. Eastwood's and Mr. J. Peel's Shorthorn herds. By Mr. J. Thornton.
APRIL 28.—At Preston Hows, Whitehaven, Shorthorns from Mr. R. Jefferson's herd. By Mr. J. Thornton.
MAY 2.—At Wicken, Stony Stratford, Shorthorns from Lord Penrhyn's herd. By Mr. H. Strafford.
MAY 3.—At Havering, Romford, Shorthorns from Mr. McIntosh's herd. By Mr. H. Strafford.
MAY 4.—At Boynton Hall, Chelmsford, Mr. J. Christie's Shorthorn herd. By Mr. J. Thornton.
MAY 9.—At Packington Hall, Coventry, the late Lord Aylesford's Shorthorn herd. By Mr. H. Strafford.
MAY 10.—At Sproatley Rise, Hull, Shorthorns from Mr. Barber's herd. By Mr. H. Strafford.
MAY 11.—At Cranmore, Market Deeping, Mr. R. Searson's Shorthorn herd. By Mr. J. Thornton.
MAY 18.—At Merton, Thetford, the late Lord Walsingham's Shorthorn herd. By Mr. J. Thornton.
SEPTEMBER 7.—At Holker, Lancaster, Shorthorns from the Duke of Devonshire's herd. By Mr. H. Strafford.
SEPTEMBER 8.—At Beaumont Grange, Lancaster, Shorthorns from Mr. W. W. Slye's herd. By Mr. H. Strafford.
 The dates of the following Sales have not yet been fixed:
 During the Spring.—At Kingland, Hereford, Mr. J. Williams' Hereford herd. By Mr. A. Edwards, Leominster.
 In June.—At Merton, Thetford, the late Lord Walsingham's Southdown flock. By Mr. J. Thornton.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REVIEW FOR MARCH.

March has closed with favourable prospects before agriculturists, though it is as yet too early to arrive at any certain conclusions as to what may be the actual result of the season's operations. Any anticipations formed at this moment, whether favourable or otherwise, may be entirely falsified by the progress of events, and by the character of the weather in the future. The past month, however, has been favourable both for the growing crops and for the prosecution of the out-door farm labours incidental to the period of the year. Bean and pea sowing have been carried out under encouraging circumstances, and very good progress has been made with potato-planting. A large breadth of barley and oats has been sown under good conditions, a larger area than usual having been placed under the former grain. During the closing weeks of the month the fields were the scenes of great activity. A large extent of land has been planted with spring wheat, Talavera having been extensively sown. To this fact is to be partly attributed the rise in the value of choice wheats, in excess of the improvement of inferior descriptions, the fine samples exhibited at market having been taken off eagerly for seed. The autumn sown crops are looking well, wheats especially being strong and healthy. The fields, however, are rather backward for the time of year—the result of the long continued and severe frost; but this is by no means to be deplored, as the plant has to go through many vicissitudes of wind and weather during the next few weeks. The young wheats are well above ground in the southern counties, and are looking strong and healthy, though a certain loss of colour has resulted from the recent great fall in temperature. From the midland districts our accounts, so far as they go, are equally favourable; but it is out of the question to look for any important communication from the north, from which we can form no legitimate conclusion at this early period of the year. So far as present experience goes, nearly all the autumn-sown crops are doing well, and the prospect before them is good. An important exception must be made, however, in the case of winter beans, which have suffered severely from the frost in many instances, a large proportion of the plants having succumbed to the cold. The crops, however, have been very variously affected, though the great majority has been damaged and curtailed.

The wheat trade has been influenced by peculiar circumstances during the month, arising from the political complications on the Continent. On the signature of peace hopes were entertained that trade with France would be actively resumed, and the corn trade naturally looked for a large share of the traffic; and this was reasonable enough. The lengthened

occupation by the German armies had completely exhausted the stock of cereal produce in the northern districts of France, and a large export from this side was consequently anticipated. It must be borne in mind that the French grain trade at all times operates most injuriously upon our own, and for these reasons: Situated under similar geological and climatic, if not similar geographical, conditions as England, the crops of France are generally very similar to our own; that is to say, that a bad or good harvest in England is usually accompanied by a bad or good harvest in France. Now France is usually an exporting country, and Mr. Caird estimates that in the ten years ended 1866 she sent us 12 per cent. of our imports of wheat. But it will be observed that she exports to us at a time when we less need her assistance, and draws breadstuffs from us at a time when we are hard pressed for supplies. The fact that the French have a large extent of land under wheat cultivation annually, under an inferior system of farming, accounts for the fact that a bad season is much more severely felt by them than by ourselves. This year these influences are intensified. The last harvest in France was below the average, and even in ordinary circumstances it was probable that she would draw somewhat heavily upon us. But the recent war has had the effect of completely exhausting the stock of grain in the north and of heavily drawing upon the south, so that our exports will probably be increased in proportion, as indeed they have been up to this period. It appears likely, therefore, that the value of wheat will be fully supported for some time to come, so that prices have seen their lowest point for the season. At the same time it is as well not to lose sight of the fact that the absence of political complications is necessary for the proper development of trade, and should the present unfortunate circumstances attending the development of the Republic in France not be overcome, a great check will be given to the export trade in all articles, corn not excepted. Another unfortunate feature is the demoralisation of the commercial world in France. Bills due immediately after the conclusion of the war are still unpaid, and debtors naturally take refuge under the protection of the conflicting "authorities" as opportunity serves them; and the uncertainty attending financial arrangements would naturally check any legitimate trade.

Spring corn opened dull at the commencement of the month, but recovered on the demand for seed corn setting in.

Barley closes without material change in value, but firm in tone.

Oats have been in short supply throughout the month; nevertheless, prices close rather lower than at the opening, though more steadiness prevails as we write.

Maize is slightly dearer.

As an early period of the month beans and peas were in demand for setting, and prices were consequently firm, but the trade closes dull at drooping currencies.

Supplies of flour have been in excess of the demand, owing to the over-production for the French market, but prices have ruled comparatively steady in sympathy with the state of the wheat trade.

There is no feature of interest to notice in the position of the hop market. Trade has ruled quiet, but the quotations have been well supported for fine coloury English qualities. Foreign descriptions have sold slowly, though there has been some inquiry for Belgian and American sorts. Best mid and East Kents now sell at from £5 to £6 per cwt.

Fair supplies of potatoes have been on sale at the Metropolitan markets, but there is no important movement to notice in the trade. Our last quotations are: English Shaws 70s. to 100s., ditto Regents 60s. to 95s., Scotch Regents 60s. to 95s., Rocks 60s. to 80s. per ton.

Hay closes with a drooping tendency in value, owing to the material improvement which has taken place in the condition of the pastures. Sales have not as a rule been extensive. Prime meadow hay is quoted at 125s. to 135s., and prime fresh cut closes at 135s. to 145s. per load.

The wool market has shown great firmness, though less animation has lately prevailed in consequence of the untoward political events that have taken place in France. Fine qualities of English wool have sold freely, all choice lustrous having commanded extreme rates. Best Down wools have been most in request. There is a disposition now to await the effect of the new clip upon prices, which may be expected in the market at an early date.

REVIEW OF THE CATTLE TRADE FOR THE PAST MONTH.

The cattle trade during the past month has been alternately steady and depressed. Although the supplies of stock forwarded to market have not been extensive, a rather large supply has been detained at the waterside, and, as heavy receipts have come to hand in the carcase trade, the deficiency in other quarters has been about compensated. As regards beasts, the arrivals from our own grazing districts have been about an average as regards number, and the condition generally has been satisfactory, the Norfolk stock mostly coming to hand in good condition. During the earlier part of the month the best Scots were making as much as 5s. 8d. per 8 lbs., but the price has twice fallen to 5s. 4d. per 8 lbs.

Sheep have been sent forward with tolerable freedom, and some good serviceable animals have come to hand. Although not active, the trade has presented a firm appearance during the greater part of the month. At one time the best Devons and half-breds in the wool were making fully 6s. 6d. per 8 lbs., but a fall of 2d. per 8 lbs. has since taken place.

Lambs, of which a moderate supply has been on offer, have sold at from 7s. 6d. to 8s. per 8 lbs.

Calves have changed hands quietly, and pigs have commanded but little attention.

The pastures and meadow lands now present a more verdant appearance, and cattle are enabled to obtain a fair feed, but at the same time the supply of grass is by no means extensive.

The total imports of foreign stock into London during the past month have been as follows:

	Head.
Beasts	6,996
Sheep & Lambs	31,170
Calves	967
Pigs	698
Total	39,831

Import at corresponding periods:

Total in 1870	30,769
" 1869	53,383
" 1868	12,337
" 1867	34,700
" 1866	51,869
" 1865	25,719
" 1864	18,104
" 1863	15,644
" 1862	6,259
" 1861	9,091

The arrivals of beasts from our own grazing districts, as well as from Scotland and Ireland, thus compare with the three previous years:

From—	1868.	1869.	1870.	1871.
Norfolk, Suffolk, Essex, and Cambridgeshire.....	9,100	4,806	5,950	9,530
Other parts of England.....	2,620	2,800	2,310	2,677
Scotland	2,224	815	906	657
Ireland.....	720	474	1,670	920

The total supplies of stock exhibited and disposed of at the Metropolitan Market during the month have been as under:

	Head.
Beasts	15,620
Sheep and Lambs	102,545
Calves	709
Pigs	610

COMPARISON OF SUPPLIES.

March,	Beasts.	Sheep & Lambs.	Calves.	Pigs.
1870	15,112	115,855	1,029	440
1869	18,950	132,910	1,165	525
1868	20,380	127,260	1,146	2,270
1867	14,460	95,600	1,100	1,800
1866	15,511	117,550	1,075	2,205
1865	22,400	86,752	1,142	3,015
1864	21,500	91,890	1,218	2,690
1863	18,653	88,560	935	2,432
1862	18,200	83,040	881	2,810
1861	18,500	85,270	700	2,410
1860	18,160	93,409	853	2,042
1859	16,810	94,775	695	2,890
1858	17,821	74,410	704	1,915

Beasts have sold at from 3s. to 5s. 8d., mutton 3s. 4d. to 6s. 8d., lambs 7s. 6d. to 8s., calves 3s. 8d. to 6s., and pigs 3s. 6d. to 5s. 2d. per 8 lbs. to sink the offal.

COMPARISON OF PRICES.

	Mar., 1870.	Mar., 1869.
	s. d. s. d.	s. d. s. d.
Beef from	3 2 to 5 2	3 4 to 5 8
Mutton	3 0 to 6 0	3 4 to 6 8
Lamb	7 6 to 8 0	0 0 to 0 0
Veal	3 10 to 6 0	4 8 to 6 2
Pork	4 6 to 5 8	3 8 to 5 2
	Mar., 1868.	Mar., 1867.
	s. d. s. d.	s. d. s. d.
Beef from	3 4 to 5 0	3 4 to 5 2
Mutton	3 8 to 5 4	3 10 to 6 2
Lamb	0 0 to 0 0	0 0 to 0 0
Veal	4 2 to 5 4	4 6 to 5 6
Pork	3 4 to 4 2	3 8 to 4 2

CUMBERLAND.

The winter just passed away was one of those commonly called "the old-fashioned sort," that is, accompanied with long and severe frost, which kept the usual farming operations in the field all but stationary for some weeks. But since the hoary tyrant relaxed his icy grasp, the weather having been favourable, every exertion has been used to make up for lost time, and under the favourable circumstances the plough has never been stopped by bad weather, so that the debt of labour has been nearly cleared off. The wheat which was early got in had shown a fine braird before the frost set in, but there was a great breadth only committed to the ground shortly before the frost, and this consequently did not make its appearance till after the frost left, but it then came very well, and all so far looks very promising. The greatest danger will be to that on light black-topped land, especially if forward when the frost sets in, as should the nights be again frosty, and the days hot, accompanied by a sharp east wind, such as now prevails, it may loose root. Wheat sowing is now finished, except some patches of the April variety; while oat sowing has partially commenced, but not much will be done for some days, as the land is perhaps a little too dry, and would be better for a shower or two of rain before seeding. The weather is at present very favourable for preparing the land for green crops, but is, and for some time has been, sadly against vegetation, and threatening to retard the growth of keep for out-

door stock to a late period. This is the more unfortunate in consequence of the great and general destruction of the turnip crop, both of that growing in the field, and that stored, and all will be exhausted long before the usual time in other years. This is hurrying fat cattle to the market sooner than they otherwise would have been sent, but it does not appear to unfavourably affect the market as yet, beef and mutton bringing good prices. The crops of both corn and hay last year being very good, fodder continues plentiful, but a late spring may make it all wanted to carry through till the grass comes. Potatoes are very plentiful and cheap, but they will probably have to be resorted to in order to fill up the void caused by the failure of the turnips, as, at their present price,

they will not be a costly feed for cattle. Store stock of every kind, both calving cows and young cattle, are in great demand, and bring high prices at all the auctions that have been held for some time back; and store sheep are also in demand, and bring a price relative to the high price of mutton. Horses, especially for agricultural purposes, have been in great request, the better sort bringing unusually long figures. The pork market is about to close, and a good price has prevailed throughout, though a shade lower than last year. Young pigs still sell at fair prices, but much lower than some time since. Labourers are scarce; and the writer was told the other day by one that he could have five offers for every day's work.—March 23.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

Like February, the month of March has passed through great fluctuations, the lowest point at night being 9 degs. of frost, and the highest in the shade on the 26th, as much as 65 degs. Not many frosty nights, however, occurred, and we had only one heavy fall of snow, which laid on the ground for a day, and so saved the grass and other vegetation beyond what was expected, while many almost summer days ruled on the third week, and brought everything forward apace. Beyond the damage to the autumn-sown oats, barley, &c., but little harm has occurred apparently to the wheat, though we have heard of its being cut up on the light soils as well as of misplants on the stronger soils. So as a whole, March has been fine and sunny, though without the usual strong breezes till near the close. With these fine opportunities, farmers have been busy in sowing their Lent corn, and a few April showers will make the corn fields bright and promising. The National Assembly having made peace with Prussia, we were in hopes of a gradual return on the part of France to prosperity; but before spring planting has been completed, towards which our own country has contributed so much, the capital has broken out with a political phrensy, which already stained by blood, leaves calculation altogether baffled, and threatens every form of disaster, not only to its authors, but also to the peacefully-disposed. Our weekly exports of wheat, oats, and other kinds of grain have assumed unusual proportions, and if peace and quiet were fully assured might still increase; but with commerce deranged friendly hands are paralyzed, and agriculture is again seriously threatened, unless the present anarchy be speedily quelled. As we expected, and wrote in our last, prices have been still tending upwards for wheat, so that we are at least 2s. per qr. dearer than then; nor does the movement seem likely to stop, for the opening of the Baltic has been coeval with a simultaneous rise in prices throughout Belgium and Germany, as well as Holland, where much mischief is reported to have been done to the growing crops. This may have been exaggerated, and we sincerely hope so, for the general shortness of stocks has been plain enough, and the withdrawal of ordinary labour from the fields must have further reduced the future chances of plenty. Odessa being open, we are glad to hear that good supplies are shortly expected there from Southern Russia; and when the canals of America are free fair shipments will doubtless be made; but, with a reported deficiency thence, and a speculative spirit, prices seem more likely to rise than decline. The following rates were lately ruling at the places named: Wheat at Paris 67s. to 70s., English for seed being held at extravagant prices. At Bordeaux native qualities 68s. to 65s. Russian sorts at Marseilles 54s. to 57s.

Wheat at Antwerp 66s., at Courtrai 63s., at Namur 67s., at Rotterdam 64s., at Hambro' 54s. to 63s., at Zurich (Switzerland) 55s. to 60s., at Berlin and Stettin 53s. to 55s.; at Danzig, placed in London, the best high-mixed was 62s. to 63s. Wheat at Alexandria, with little offered, and very poor quality, 41s. free on board; at San Francisco 62s. 6d., cost, freight, and insurance; at Valparaiso 56s., cost, freight, and insurance; at New York red No. 2 Milwaukee 55s. per 480lbs., cost, freight, and insurance.

The first Monday opened on moderate supplies of Wheat, both English and foreign. The show of fresh samples on the Essex and Kentish stands was limited, and generally in poor condition; yet sales were made, though but slowly, at an advance of 1s. on the best-conditioned samples. There being a demand for new spring American, for sowing in France, this quality advanced 2s. per qr.; but other descriptions were only 1s. per qr. higher, with but a moderate inquiry. With large arrivals off the coast, there was no quotable advance. Occupation in the fields this week lessened the supplies in many country markets, this circumstance, with more favourable advices from London, caused a moderate rise: some, however, were only 1s. dearer—as Alford, Gainsboro', Hull, Leeds, Louth, Market Harbo', Market Rasen, Newcastle, Spalding, Thirsk, &c., while Lynn, Melton Mowbray, Spilsby, Stockton, and several other towns were up 1s. to 2s. Liverpooli throughout the week was only firm. Edinboro' and Glasgow were 1s. higher for wheat per qr. Dublin was rather dearer for foreign wheat, and firm for Irish. Belfast was 5s. per ton higher for fine foreign.

On the second Monday less English wheat was reported, but the foreign arrivals were doubled. The show of fresh samples from the near counties was again limited, and generally in poor condition. Really fine dry parcels being scarce, were fully as dear, but inferior sorts were difficult to place. The foreign trade was by no means free, but the best Baltic, both red and white, was quite as dear as on the previous week; but had the lower qualities of Russian been forced less money must have been accepted. With but small arrivals off the coast, prices were much the same. The country markets this week were generally dull, the weather having been fine and the frost breaking in the Baltic and Southern Russia. There was, however, little disposition anywhere to accept less money, though Bury St. Edmund's gave way 1s. per qr., and Wolverhampton was rather lower; but at Louth the scarcity of fine red wheat raised prices 1s. to 2s. per qr., and Newcastle found a more ready sale. Liverpool was down 1d. per cental on Tuesday, and dull on the Friday's market. At Edinburgh good wheat brought 1s.

per qr. more, but at Glasgow the tendency was downwards. Native wheat remained firm at Dublin, and fine foreign was rather dearer.

On the third Monday there was a further diminution in the supply of native wheat, but the foreign arrivals remained good. At the opening of the market the best samples were generally held at higher rates, and in some few instances 1s. per qr. more was paid; but these were exceptions. Business, though firm, was limited in extent. With further sales of fine new American red for seed, this quality again obtained 1s. per qr. more, having sold at 58s.; but for other qualities nothing beyond the previous currency could be realized. With good arrivals off the coast, fine sorts sold at full prices; but the trade eventually slackened. The country trade this week, with the weather all through unusually fine, had a cheerful aspect, and there was a general advance of 1s. to 2s. per qr., though a few markets only reported increased firmness. Among those who noted 1s. improvement were Bristol, Gloucester, Bury St. Edmunds, Boston, Sleaford, Rugby, St. Ives, Alford, Lynn, Wolverhampton, Leeds, Newcastle, and Rotherham. Those reporting the advance 1s. to 2s. were Manchester, Melton Mowbray, Newark, Spilsby, Stockton, Brigg, Hull, &c. Liverpool was up only 1d. per cental, on Tuesday, with no subsequent change. Glasgow was firm for all qualities of wheat, and rather dearer for American, and Edinburgh noted an improvement of 1s. per qr. The Dublin wheat trade was only steady for home-grown sorts, with a turn in foreign against buyers.

On the fourth Monday there was a moderate arrival of English wheat, and only two parcels of foreign—viz., one small cargo from Dantzic and one lot from India, while the exports of the week were equal to the entire supply of English. The show of fresh samples during the morning from Kent and Essex was limited, and the condition much improved by the previous week's fine weather. Factors therefore were asking 1s. more money for anything fine, especially for nursery quality for seed for France, and 61s. was paid, with some advance on white; but there was too little life in the trade to call it generally dearer. In foreign also, with our exports overbalancing the supplies, there was an upward feeling; but the strange state of Paris prevented any free movement, and an advance was only obtained, and that a small one, on well-known bulks and the best new American. Floating cargoes were very steady, and the finest a free sale.

The imports into London in the four weeks were 33,105 qrs. English and 57,480 qrs. foreign, against 20,114 qrs. English and 32,929 qrs. foreign for the same time last year; but then the exports were only 855 qrs. against 32,576 qrs. this last month; so they were only 500 qrs. short of the entire home-supply. The imports into the kingdom for four weeks ending 18th March were 1,988,207 cwt. wheat and 349,798 cwt. flour, against 2,430,137 cwt. wheat and 278,491 cwt. flour in 1870. The London averages commenced at 56s. 4d. and closed at 57s. 5d. The general averages began at 53s. 9d. and ended at 54s. 7d., thus showing a steady and upward movement both on town and the country.

The flour trade at the commencement of the month remaining under the influence of a large export trade was 1s. to 2s. per sack dearer, and 1s. per brl.; but with a subsidence of this foreign demand it relapsed into a quiet state in which it closed with Norfolks scarcely worth over 38s., though quoted 39s. The stock of barrel Flour being short prices closed firm, and the quotations by last telegram for New York were 28s. 4d. c. f. and i. for extra State, which, with landing expenses and commission included, leaves no margin for the London trade. The exports for the month have been 24,301 cwts.; the im-

ports in the same time into London were 96,192 sks. English and 2,421 sks. 46,330 brls. foreign, against 85,986 sks. English and 3,206 sks. 24,770 brls. foreign for the same period in 1870.

Though the trade in malting barley has been on the wane, the absence of fine foreign and short supplies of home growth have hardened prices about 1s.; foreign, also, in consequence of the rise in maize has improved to the same extent, there being only a moderate quantity in store. There will doubtless be fair arrivals eventually from the Black Sea; but, perhaps, not in such quantity as to materially reduce prices, as our last crop shows indications of being used up. The imports for four weeks into London have been 8,875 qrs. British, 38,717 qrs. foreign, against 10,647 qrs. British and 18,800 qrs. foreign in 1870; but during the month we have exported 2,001 qrs.

In malt also, we have the unusual feature of an export of 4,791 qrs. during the month, and to this we mainly attribute the steadiness of prices which have not varied during the month, excepting an upward tendency for fine sorts.

Of foreign Oats no supplies worth naming came to London till the fourth Monday, and they did not reach to a weekly average, yet by the better prices lately obtained, English growers have been induced to send up more than their wont for so small a crop; still the market has almost exclusively depended on granary stores, which by a heavy weekly drain are now much diminished, to the great relief of holders, whose case at one time looked very gloomy, for good corn, not very long ago, was selling at 19s. now worth 23s., say for Russian of 38 lbs. per bushel weight, Swedes bringing 1s. more. The gain of the month has been very little, if anything, for the fluctuations of the weather have so often promised free supplies from the Baltic, which never came to hand, that dealers preferred the choice the granaries afforded them to paying more for the few ship samples on sale. The granaries, too, have been farther relieved by an export of 20,821 qrs. Our receipts in London for the month were 11,709 qrs. English, 36,009 qrs. foreign; against 2,940 qrs. English, 35,614 qrs. foreign in 1870.

Beans through the month have been dull, without quotable change. None are at present coming from Egypt, though sales on contract have been made at 33s. free on board. But with maize relatively dearer we do not see how prices can be reduced without large arrivals of that grain, which cannot get here from New York before the middle of May. The month's imports were 8,219 qrs. English, 8,476 qrs. foreign; against 3,827 qrs. English, 3,358 qrs. foreign in 1870.

The supply of peas has been very limited. During the seed demand rates were high, but they have resumed the consumption value without any quotable alteration. The English imports in four weeks were 1,396 qrs. English, 286 qrs. foreign; against 1,910 qrs. English last year.

Maize being in very short supply has risen 1s. 6d. per qr., good yellow being worth 36s. to 37s. per qr. These prices are likely to fall on the arrival of last year's crop.

Linseed, very seldom the subject of change, has within the last five weeks gained in value 8s. to 4s., and there seems no chance for some time of a reduction. Stocks and arrivals being small, cakes have only been firm.

The seed trade during the month about reached its zenith, and a fair amount of business was transacted in cloverseed at full prices, and it was the same with spring tares, which this season have been largely in request, but these now appear to have had their day, with several samples unsold, and prices looking down.

**CURRENT PRICES OF BRITISH GRAIN AND FLOUR
IN MARK LANE.**

	Shillings per Quarter.
WHEAT, new, Essex and Kent, white.....	58 to 60
red	51 58
Norfolk, Lincolnsh., and Yorksh., red	51 58
BARLEY .....30 to 33.....Chevalier	35 41
Grinding.....29 30.....Distilling	34 38
MALT, Essex, Norfolk, and Suffolk	60 67
Kingston, Ware, and town-made	60 67
Brown	49 55
RYE.....	38 39
OATS, English, feed 24 to 26.....Potato.....	29 35
Scotch, feed .....00 00.....Potato.....	00 00
Irish, feed, white 21 23.....Fine.....	26 29
Ditto, black .....20 25.....Potato.....	26 34
BEANS, Masagan ...37 40.....Ticks.....	37 40
Harrow .....40 44.....Pigeon	45 50
PEAS, white, boilers.36 40Maple 43 to 46Grey, new	37 40
FLOUR, per sack of 280lbs., best town households..	47 50
Best country households	40 43
Norfolk and Suffolk	38 39

FOREIGN GRAIN.

	Shillings per Quarter.	
WHEAT, Danish, mixed	57 to 59.....extra.....	60 to 64
Königsberg	56 58.....extra.....	58 60
Bostock	56 58.....fine	58 60
Silesian, red.....	52 56.....white	55 58
Pomera., Meckberg., and Uckermark. ...red.....	55	59
Russian, hard, 44 to 45...St. Petersburg and Riga	47	53
Danish and Holstein, red 53 56.....	American 43	58
Chilian, white 61... Californian 61 ... Australian 61		63
BARLEY, grinding 27 to 31....distilling and malting	24	36
OATS, Dutch, brewing and Poland 23 to 30.....feed	23	35
Danish and Swedish, feed 23 to 26.... Stralsund...	24	27
Canada 23 to 23, Riga 23 to 24, Arch. 23 to 24, P'sbg.	24	27
TARES, Spring, per qr..... small 45 52.....large	00	00
BEANS, Friesland and Holstein	43	44
Königsberg.....	40 to 43...Egyptian	38 39
PEAS, feeding and maple...35	38...fine bollars	37 39
INDIAN CORN, white...33	37...yellow	33 36
FLOUR, per sack, French...00	00...Spanish, p. sack	00 00
American, per brl.....36	27...extra and d'ble.	29 30

BRITISH SEEDS.

MUSTARD, per bush., brown 12s. to 14s., white	10s. to 11s.
CANARY, per qr.	50s. 60s.
CLOVERSEED, new red	72s. 96s.
CORIANDER, per cwt.	21s. 22s.
TARES, winter, new, per bushel	8s. 8s. 6d.
TRIFOLIUM, new	34s. 28s.
RYEGRASS, per qr.	36s. 40s.
LINSEED, per qr., sowing 68s. to 70s., crushing	52s. 63s.
LINSEED CAKES, per ton	\$11 0s. to \$12 0s.
RAPESEED, per qr.	76s. 80s.
RAPE CAKE, per ton	\$5 15s. 6d. to \$6 12s. 6d.

FOREIGN SEEDS.

CORIANDER, per cwt.....	21s. to 22s.
CARAWAY, ,, new.....	32s. 33s.
LINSEED, per qr., Baltic 59s. to 62s...Bombay	62s. 63s.
LINSEED CAKES, per ton.....	£11 0s. 0d; to £12 0s.
RAPE CAKE, per ton	£5 15s. to £6 12s. 6d.
RAPESEED, Dutch	76s. 80s.

COMPARATIVE AVERAGES.

WHEAT.				BARLEY.				OATS.			
Years.	Qrs.	s.	d.	Qrs.	s.	d.	Qrs.	s.	d.		
1867 ...	60,781	...	59 9	23,343	...	40 5	6,911	...	34 8		
1868 ...	40,896	...	72 5	20,327	...	43 4	11,336	...	26 9		
1869 ...	52,220	...	47 9	25,189	...	45 0	8,707	...	27 3		
1870 ...	66,971	...	41 9	31,817	...	34 4	5,382	...	21 1		
1871 ...	78,657	...	54 7	38,193	...	36 1	7,440	...	25 7		

AVERAGES

FOR THE PAST SIX WEEKS:		Wheat.		Barley.		Oats.	
		s.	d.	s.	d.	s.	d.
Feb. 11, 1871.....		53	7	35	8	23	9
Feb. 18, 1871.....		53	11	35	7	23	7
Feb. 25, 1871.....		53	9	35	10	24	5
March 4, 1871.....		53	2	35	5	24	7
March 11, 1871.....		53	8	35	0	24	10
March 18, 1871.....		54	7	35	1	25	7
Aggregate of the above ...		53	9	35	9	24	5
The same week in 1870.....		41	9	34	4	21	1

FLUCTUATIONS in the AVERAGE PRICE of WHEAT.

Price.	Feb. 11.	Feb. 18.	Feb. 25.	March 4.	Mar. 11.	Mar. 18.
54s. 7d.
53s. 11d.
53s. 9d.
53s. 8d.
53s. 7d.
53s. 2d.

HOP MARKETS.

BOROUGH, MONDAY, March 27.—Our market presents no change, continuing limited in demand for every description of hops, and where sales of ordinary and low grades are pressed less money is accepted. The foreign market is quiet. Latest advices from New York report more activity, with a strong demand for choice qualities.

Mid and East Kents	£3	0	.....	£3	10	.....	27	0
Weald of Kent.....	2	0	.....	2	16	.....	3	15
Sussex	1	15	.....	2	5	.....	3	10
Farnham and Country ...	3	15	.....	4	15	.....	5	12
Olds	1	0	.....	1	15	.....	2	10

POTATO MARKETS.

SOUTHWARK WATERSIDE

Yorkshire Flukes	90s. to 100s.
Do. Regents	60s. to 75s.
Lincolnshire do.	55s. to 60s.
Dunbar and East Lothian do.	60s. to 70s.
Perth, Forfar, and Fife do.	50s. to 65s.
Do. do. do. Rocks	50s. to 55s.

BOROUGH AND SPITALFIELDS.

English Shaws	70s. to 100s. per ton.
" Regents	60s. to 95s. "
Scotch Regents	60s. to 95s. ,
" Rocks	60s. to 80s. ,

PRICES of BUTTER, CHEESE, HAMS, &c.

BUTTER, per cwt. : s. s.		CHEESE, per cwt. : s. s.	
Dorset.....	156 to 160	Cheshire.....	70 to 80
Friesland	140 144	Dble. Gloucester..	64 74
Jersey.....	128 136	Cheddar.....	74 82
Frank, per doz. ...	16 19	American.....	56 76
BACON, per cwt :		HAMS : York.....	
Wiltshire	64 68	Cumberland.....	91 101
Irish, green, f.o.b.	62 66	Irish	86 96

BRADFORD WOOL MARKET, (Thursday last.)—The disturbed and increasingly alarming state of Paris co. to exercise a repressive influence on our otherwise improving trade, and a spirit of unusual hesitation and caution possess buyers. In English wool the amount turned over since Monday shows a considerable falling off as compared with any similar period in the last few weeks. At the same time the requirements of users, whose machinery is now very fully under contract, is by no means inconsiderable, and in good descriptions a limited inquiry has been experienced. Values in the mean time are fully maintained. Wether and skin wool in the country, from the difficulty of obtaining them, have to be bought rather dearer. Holders in this market stand out for fully recent quotations, although no further advance can be realised. Down wools are quoted quieter, but without any retrograde tendency in price.—*Bradford Observer.*

CURRENT PRICES OF ENGLISH WOOL.

Fleeces —Southdown hogs	per lb.	1	0 ⁴	to 1	1 ¹
Half-bred ditto	"	1	8	1	4
Kent fleeces	"	1	8	1	8
Southdown ewes and wethers ...	"	0	10 ⁴	0	11 ⁴
Leicester ditto	"	1	1	1	4
Sorts —Clothing, picklock	"	1	4	1	4
Prima	"	1	2 ⁴	1	8
Choice	"	1	1	1	8
Super	"	1	0	1	0 ⁴
Combing, wether mat	"	1	2 ⁴	1	8
Picklock	"	1	0 ⁴	1	1
Common	"	0	11	0	11 ⁴
Hog matching	"	1	4	1	4
Picklock matching	"	1	0 ⁴	1	1
Super ditto	"	0	11	0	11 ⁴

PRICE CURRENT OF GUANO, &c.

Peruvian Guano direct from the Importers' stores, \$12 10s. per ton.
Nitrate of Soda, \$16 10s. to \$17 0s. per ton.
Sulphate of Ammonia \$17 0s. to \$18 0s. Gypsum, \$1 10s. per ton.
Superphosphates of Lime, \$5 2s. to \$5 8s. per ton.
Blood Manure, \$6 10s. Dissolved Bones, \$7 per ton.

M. PURSER, London Manure Company,

116, Fenchurch Street. N O.

Guano, Peruvian £14	5 0	to £14 10 0	Coted. Oake, decor £8	15 0	to £8 0 0
Bone Ash	5 18 2	6 0 0	Oloverseed, N.A.	2 19 0	3 0 0
Phosphate of Lime 0	1 2	0 1 2	Niger	2 7 0	3 0 0
Limeed Oake, per ton—			Nitr. of Soda, p. et.	16 0	15 3 3
Amer., thin, bgs. 10	15 0	11 0 0	German Kainit	3 0 0	3 10 0
Lined Bomby, p.q.r.	3 0	3 4 0	Tallow, 1st F.Y.O.	3 6 0	3 0 0
Reaped, Guano 3	0 0	3 12 0	„ super. North	3 2 0	3 0 0

SAMUEL DOWNES AND CO., General Brokers,

No. 7, The Albany, Liverpool.

Printed by Rogerson and Tuxford, 265, Strand, London, W.C.

Richard Black Diamonds.

'The property of the "Hamm and B" Hotel, Liverpool, & "Downing Court", Mex. H. respectively.

I read & published by Kuperman & Kuperman 1979

Dinner Time.

London Published by Rogerson & Luxford, 355 Strand 1871

PLATE III.

RYELAND BLACK DIAMONDS.

THE PROPERTY OF THE REV. W. HOLT BEEVER, OF PENCRAIG COURT, ROSS, HEREFORDSHIRE.

The boar Pretender, of the small black sort, was bred by Mr. George Sexton, of Whearstead Hall, Ipswich, who says, "The dam is own sister to the sow that won at the Sudbury Suffolk Show, in 1870. His granddam won at the Newcastle Royal Meeting. His dam I have not shown, considering her too valuable. She has bred me winners every year. Her sister won at the Royal Show at Bury St. Edmunds."

Pretender was exhibited at the Manchester Royal Show, in 1870, by Mr. T. Comber, where he was awarded a first prize.

Mr. Beever thus writes of his pigs and their pedigree: "Mr. Sexton, whose father has had black pigs for over fifty years, was indebted for an element of improvement in them to the Lewes Royal Show, when the first-prize boar, bred by Mr. Druce, was brought into Suffolk by Captain Barlow; and further to Negro, bred by Mr. Northey, in Devonshire. The late Mr. Thomas Crisp used these same elements, and produced the celebrated

Black Diamond, that won at the Paris Show, and astonished the Frenchmen so much. Her sister I obtained from Mr. N. G. Barthropp, in pig to Mr. Crisp's Negro. One of the produce, Black Prince the First, a magnificent pig, I have now, although very old. From that sow, with one lucky cross, I have continued to breed, winning many cups at the local, Tredegar, and Bath and West of England Shows. The value of this cross I never quite appreciated until Mr. Crisp pointed it out to me at Leicester, where I was fortunate enough to be before him. We engaged thereupon to meet at Philippi, he not liking his defeat, that is, Manchester, and exhibit yearling sows. Meanwhile Mr. Crisp died, and his intended representative fetched a high figure at the Butley Abbey sale. Mine, Black Diamond 5th, won the first prize, as the best sow of a small black breed, against three of Mr. G. Sexton's rearing. Owing to the distinctive cross which I have obtained, I call the sort the Ryeland 'Black Diamonds,' this tract of country bearing of old that designation."

PLATE IV.

DINNER TIME.

The ministering angel here is the cottager's wife, and with a fine stretch of moorland as a back-ground, there would promise to be some fair sport in due season. And we are coming more and more to this. The Duke of Beaufort has just discharged his keepers, and asked the tenants to look after the birds for him, as the late Duke of Bedford did some years since. And here is the very thing we want in the way of example,

as a keeper often does as much harm as the hares and rabbits.

Down, Don, down! you naughty dog. And we have dogs of all degrees—saucy, hungry, lazy, and drunken, as according to the latest accounts from America there is a dog who reels about Memphis pretty generally over-come by beer. Our moorside kennel is content with more sober fare.

SCOTCH FARMING.

BY THE NORTHERN FARMER.

The oat crop, which follows the beans, is really a grand one when the land has been treated in the liberal manner now described, thrashing out with all ease 14 bolls to the acre, the boll weighing 240lbs. On this farm a standing stock of from 20 to 25 cows is regularly kept, and as many calves reared as possible. By changing the bulls every season fresh blood is imported into the stock, and all danger of degenerating either in size, produce, or constitution is thus obviated. As is invariably the case on all farms in Lanarkshire and neighbouring counties, the cows are of the pure Ayrshire breed, and always crossed with pure bulls, an admixture of Shorthorn blood never being attempted. Calves of this breed are very diminutive in size, and when reared badly are frequently so puny-looking as to make one imagine they would never be of any value. Being of a hardy nature, however, they stand a good deal of neglect, and soon recover under the combined influence of shelter and nourishing food. It is considered by good judges that the milking property is improved by the young animals being somewhat restricted in their diet for a few months, and really it is astonishing how well such animals do milk even on their first calf, turning out thick useful cows, healthy and good constitutioned. The almost universal practice of breeding from them at the age of two years must in some measure account for the small size of the Ayrshires; the good feeding given after calving thickening them, but not causing them to increase much in stature. The food on a farm such as this, where a large portion of land is under corn, must necessarily be given for at least seven months in the year almost entirely in the house. The consumption of food is consequently very great, and everything grown on the farm must be utilized. Not a particle of chaff is wasted, a regular chaff house being in connection with the thrashing machine, from whence it is taken as used. This is boiled with a portion of turnips, and seasoned with bean-meal, fine thirds, and a portion of grains; the latter carted from Glasgow, a distance of eight miles, and glad to get it were it even farther. So great is the necessity for economizing the bulky food of the farm, that the very turnip-tops are boiled while they continue fresh. The labour consequent on using such a quantity of boiled food is very considerable, and the servants engaged in attending on the cattle have but few leisure hours, half-past four in the morning finding them at work even in the very darkest days of winter. Coals for furnaces cost but eighteenpence a ton in Lanarkshire, a price so singularly low as to cause the greatest facility in cooking cattle food extensively, and to make the expenditure for fuel scarcely worth taking into account. On cold clays the grass has not sufficient succulence to force milk in large quantity without extra food, hence if this is not given, and that too with an unsparing hand, the dairy will fail to be profitable. The usual mode of disposing of the dairy produce is to churn the whole of the milk, the labour involved by so doing being of comparatively little consequence, as it is mostly done by horse-power. The upright plunge churn is the form generally used, and is extremely suitable. By churning the whole of the milk, every particle of butter which it contains is extracted, a matter of very considerable consequence in a district where that article is seldom under 1s. 6d. per lb. The butter-milk brings

2½d. per gallon, thus forming a very important item in the receipts of a moderate-sized dairy. The very high price ruling for well-bred Ayrshire cows of late years has induced many farmers to part with a few of their best cows when just in their prime, say on the point of dropping their third calf, their places being filled with young heifers, bred on the farm. A farmer selling five good ones may thus realize a hundred guineas easily, an exceedingly handsome sum, particularly when it is taken into consideration that the animals are sold merely in store condition, having been brought through the winter at comparatively little expense. This system certainly involves a considerable amount of extra trouble and a proportionate diminution of the years' receipts on account the introduction of so many heifers, but the difference in price between the outgoing cow in her prime, and the untried heifer taking her place is so great as to amply compensate for both trouble and loss, and leave a profit besides. The cows being partially withdrawn from the pastures pretty early in autumn, there is generally a quantity of roughish grass left over, to utilise which a small flock of Cheviot ewes is purchased in October, and run on the farm till spring. The grass on which they feed being mostly that which the cows rejected would most likely have run to waste had something of the sort not been got for it, and in consequence the farmer is not much the poorer for what they eat. In spring he finds himself owner of a tidy lot of lambs and a proportionate number of fleeces, the produce in a great measure of what was never missed off the farm. To keep the flock of ewes and their produce over until both can be disposed of in the fat market, a field or possibly several fields of grass are taken for the summer, on which they and all the young store stock of the farm are placed. Did this serve the purpose merely of relieving the farm for the time being it would be well worth doing; but when by good management it becomes quite possible to make profit on every animal so placed out, a new source of revenue is opened up, forming a pleasant and acceptable addition to the income yielded by the ordinary products and business of the farm. It being now so much the custom to let grass parks by public auction for the grazing season, there is little difficulty in getting the requisite acreage. The excessive competition has, however, raised rents to such a height as to cut the profit extremely fine, unless stocked in the manner already described. The profit of cattle purchased for the express purpose of being fed on these parks is extremely variable, and, should the season prove a dry one, or the stock be attacked by foot-and-mouth distemper, their owner may count himself lucky if he escapes without loss.

Before finally taking leave of the Ayrshire cow at this time, I may mention that amongst a considerable number of herds of this breed which I visited, I found but one which reminded me in size of frame, softness of hair, and general sappiness of the favourite Shorthorn. Indeed, so closely did some members of the herd resemble three-quarter-bred Shorthorns, that I was disposed to think they really possessed a dash of that blood. Of this, however, I was assured to the contrary, these very animals having been shown in the Ayrshire class at Glasgow, and taken good positions, although, I believe,

none securing a first prize. The best young cow of the lot, an exceedingly handsome animal, and intended to be shown next spring, had unfortunately lost a pap during the past autumn, the free use of which her owner was endeavouring to restore by blistering, hoping by this means to remove the corrupt matter which had there found a lodgment. To me this mode of recovering the use of lost teat was quite original; and I note it here, as many might be disposed to give it a trial—a lost quarter being so unsightly, and tending so much to decrease the value of the cow, if sold as a milker. Much of this farm is situated so near the banks of the Clyde as to be flooded periodically, the fine sediment left by the receding waters enriching the grass to an extraordinary degree, the mere licking of it fattening either a sheep or cow—this fact explaining the excellent condition of the dairy stock, and its marked superiority in size over other stocks in the district.

In giving this description of Scotch farming, it may be almost supposed by some to lead to the inference that there is no such thing as bad, indifferently, or careless farming in the whole country. Nothing, however, could be farther from my intention than to mislead, as there is in Scotland, like every other country, plenty of contrast—ill-stocked and poorly-worked farms being pretty well intermixed with those which are well-stocked

and worked on the most advanced principles of modern husbandry.

Within a dozen miles of Glasgow, and on deep and moderately-good land too, as poor farming as could well be met with in any part of the kingdom may be seen and readily recognised to be such by any one interested in agriculture, however slightly. On breaking up the land from grass, three crops of oats are sometimes taken, without the smallest application of top-dressing either to the first or succeeding crops; the land laid down with grass at once without a cleansing course; two seasons' hay then taken in succession, if there is a prospect of gathering even the shadow of a crop, the land being then let out for pasture. By this time, however, as may well be supposed, couch and other perennial weeds have taken possession of the soil, rendering what little food the cattle are able to gather so dry and sapless as to reduce them to a state of semi-starvation. The extended growth of turnips is objected to on the ground of the succeeding crops of grass being injured; and the plain fallow is persisted in, despite abundant examples of the numerous advantages attendant on having an abundance of turnips for the winter. Deeply-rooted prejudice and the iron tyranny of habit thus combine in such a case as this to completely blind a man and prevent him from attending to the advancement of his own interests.

WAYS AND MEANS.

As might have been anticipated the financial arrangements for the year offer no hopes for the Anti-Malt Tax movement, while the Government promises to be scarcely yet in earnest over the Game abuse; so that the politics of agriculture would seem to centre more and more on the subject of Local Taxation. However well, indeed, Mr. Lowe may have succeeded last session his present Budget is no question pretty generally disliked. There is but little that is statesmanlike or convincing in its construction: the soundest of his proposals, such as again having recourse to the income-tax, are not his own, as his own ideas of raising a revenue are alike trivial in their tone and unwholesome in their direction. The tax upon matches is a tax upon those least able to bear it. The interference with the price of "a halfpenny a box" will go far to destroy the trade, and to fill our workhouses and reformatories with the families which have long contrived to earn a livelihood by such a means. Of course this is far more a town than a country question; but if, as we are told, the two interests should go together, then we can only wonder at the readiness with which the House of Commons has accepted the imposition. To carry out his principle the Chancellor of the Exchequer should surely provide for a tax upon tooth-picks and peppermint lozenges, which are in reality more of luxuries and proportionately more open to the infliction of a duty. But even the very notion is not after all a novelty, as this is merely borrowed from America, and *The Economist* hears "with some fear and trepidation of America being taken as a financial model." Before we fly to the States and the adoption of a step which here simply comes to an increase of pauperism, there might be many other roads by which an inventive genius like that of Mr. Lowe might reach its aim and end. In point of fact, the right honourable gentleman is never so happy as when he takes a line of his own, and whether it be creating a surplus or supplying a deficiency, he should rely alike on his own powers. Why not have put a duty on valentines and made a double charge for every

letter sent or received on the fourteenth of February? Or, have adopted the oft-repeated suggestion for taxing first and second class railway tickets? Or, have dealt resolutely with that growing nuisance, the portrait photograph business? Let a penny or twopenny stamp be affixed to every likeness taken by photography, and it is almost impossible to calculate the amount of income which might be raised in this way. And having your picture taken is not one of the necessities of life, so that people who paid a shilling a head for the operation could give something more without feeling this. We are not, indeed, so certain but that the style of art might be improved by any such attention on the part of the Government; and that the Books of Beauty, and Chambers of Horrors, which we find so liberally scattered about, would be better worth looking into were the trade not quite so free and altogether unfettered. *Ex luce*, moreover, is the chosen motto, but it might go beyond lucifers.

"Mr. Lowe has, with astonishing facility squandered a portion of the future revenue, for the purpose of facilitating Mr. Goschen's arbitrary redistribution of local taxation." So says *The Saturday Review*, and it would be idle to attempt to disguise the fact that Mr. Goschen's views are receiving support in several different quarters. On Tuesday evening the Tayler Prize Essay, or at least the chief points of the paper, were put before the Statistical Society by the author, Mr. Inglis Palgrave, as we give a special report of the meeting in another page. And the address, which was generally pronounced to be a very able one, was almost altogether in accordance with Mr. Goschen's figures and recommendations. The chairman of the evening, Mr. Newmarch, said, "It was fortunate for Mr. Palgrave that the statistics in his essay, and those contained in Mr. Goschen's Report, compiled with all the aids and resources of a great official department, appeared to be almost identical, and that the general conclusions arrived at by Mr. Palgrave and Mr. Goschen were almost exactly the

same;" while the author of the Essay said in explanation of this, "that, however the results given in that paper might coincide with those contained in Mr. Goschen's Report, that was not because there had been any imitation on his part, but because the facts did not admit of any other conclusions being drawn. It was a matter of great satisfaction to himself that the accuracy of his investigation was proved by the official tables which had been issued after careful inquiry." We must leave these facts to speak for themselves. There is unquestionably an amount of corroboration which is very remarkable, as the award of the judges appointed by the Statistical Society speaks alike to the ability displayed in dealing with the subject by Mr. Palgrave, and necessarily by Mr. Goschen.

It will be found that the half-rating proposal was again raised, as this branch of the question has during the last few days brought a somewhat awkward feature, that is so far as the farmer be concerned, very prominently into the discussion. At the Statistical Society Sir Massey Lopes said he "was not in favour of dividing all rates between owner and occupier; and he believed that as regarded the interest of tenants it would be a mistake to disturb existing arrangements so as to give many landlords who desired it a pretext for having their estates revalued." And in the Report adopted at the meeting of the Chamber of Agriculture on Thursday, the same ominous contingency crops up: "As regards the proposed division of payment of rates between owner and occupier, your committee would observe that no relief whatever will be obtained by this division, except in the case of new rates, and your committee object strongly to the principle of interference with the right of private contract. It might be prejudicial to occupiers that existing arrangements should be disturbed; for, in making fresh arrangements, revaluations would be necessary, which might not be to the advantage of the occupier." This sounds significant enough, always remembering that the landlords have taken a very leading part in this branch of the Chamber business; so that we come only the more gravely to doubt what actual "advantage to the occupier" will follow from his taking up the Local Taxation cry. Of course, as a matter of simple justice it is hard on the tenant that he should have to pay all the new rates levied after he has made an agreement; and now it is pretty clear that it will be harder still for him if he claim that such fresh charges should be taken into consideration upon his entering on another term. "If I have so much taken off my property in rates, of

course I get so much more in rent," says Mr. Genge Andrews; but the reverse of the proposition is not so clear. So soon as the farmer asks that the new rates should be taken into account, so certainly, say Sir Massey Lopes and the Chamber of Agriculture, will there be revaluations called for; and revaluation with a clever agent, who knows what he is about, simply means in so many words a rise in the rent. The occupier is in something of a cleft stick here; for, if you reduce the burdens on land—that is, the rates—he will have more rent to pay, and if, on the other hand, you divide the burdens the result is still the same, he will have more rent to pay. As the Chamber Report puts it, "it might be prejudicial to occupiers that existing arrangements should be disturbed." It might indeed; and so surely as Sir Massey Lopes or Mr. Goschen carries his point *will* existing arrangements be disturbed. One of the best friends the farmers have, and one of the clearest in his views on their position, goes even farther still, and thus addresses us in a letter not intended for publication: "Where I think the tenant-farmers are wrong in *their own interests* is in seeking to make personal property pay toward local rates. If they succeed, in addition to their present rates, which unquestionably come out of the landlords' pockets, their own stock-in-trade, their private investments, will also be rated; and it used to be said that farmers were the greatest fundholders. If personal property is rated there can be no exceptions." It is right that the farmer should hear and ponder over every phase of this very intricate or even hazardous question; for people who only argue it one way are scarcely doing themselves justice.

Several of the Local Chambers of Agriculture have continued to declare against Mr. Goschen's Taxation proposals, but such protests may be assumed to be embodied in the proceedings at the meeting of the Central Chamber, of which we publish a very full report. A rather amusing episode occurred here. It seems that Sir George Jenkinson gave notice in the House of Commons that on the second reading of the Government measure, "He would move a resolution declaring that the continued exemption of incomes derived from personal wealth from a fair contribution to local taxation and rates was unjust," and so on. Whereupon some of the members of the Chamber seemed to say "please don't;" while Sir George, with natural indignation referred to all he had done in this way in and out of the Chamber, and how his constituents were looking for his speech. *Et tu, Brute!*

THE LOCAL TAXATION OF THE UNITED KINGDOM.

On Tuesday evening, April 18th, at a numerous meeting of members of the Statistical Society, held at its rooms in St. James' Square, the Prize Essay for which 50 guineas was given by Mr. William Tayler, a Fellow of the Society, was read by Mr. R. H. Inglis Palgrave, the successful competitor, to whom the prize had been awarded by the council of the Society. The audience included many visitors, and owing to the present position of the question in the legislature, great interest was manifested in the proceedings. The chair was taken by the President of the Society, Mr. W. Newmarch, F.R.S.

Mr. PALGRAVE commenced by observing that the subject of the Essay was so vast that it was impossible for him to do more than give a mere outline. The reading of the paper in its entirety would occupy at least four hours and a-half, and however deep might be their interest in the topic, that would, he supposed, be rather too much for their patience

(laughter). After saying that by Local Taxation he understood indirect taxation, he proceeded to divide the rates levied in aggregate districts, such as a county, into the three classes: 1, the county rates; 2, the hundred rate; and 3, the borough rates. This list, it was pointed out in the essay, by no means exhausted the whole number; and reference was made to the summary in Mr. Goschen's report, showing that the aggregate amount received and expended in England and Wales in one year was £30,140,000. "The authorities," continued Mr. Palgrave, as he proceeded with the abridgment of his essay, "by whom the local rates are levied and expended, differ no less widely than the purposes for which they are raised. The rates may, for this purpose, be again divided into two classes: 1. Those which are levied by one authority and expended by another. 2. Those which are levied and expended by the same authority. It will be observed that the principal

part of the local taxation of the country falls within the first division. The administration of the amounts levied is thus separated in great measure from those who contribute the sums raised. Nor is this deficiency of control in the local powers supplemented in any real degree by the central authority. This naturally feeble control is further greatly diminished by the manner in which the governing bodies themselves are constituted. The boards of guardians for the poor and highway boards, consist partly of *ex officio*, partly of elected members. The county rates are entirely assessed and administered by *ex officio* authority, in the appointment of which the ratepayers have absolutely no authority whatever. The manner in which the elected authorities are appointed differs very greatly in almost every point. It may be added that the mode of voting for the different governing local authorities is also not uniform. The only point of uniformity of procedure is that the rate in almost every instance, is paid by the occupier in England. A portion of the tax, however, beyond doubt, is ultimately paid by the owner. In very few cases, however, has the owner, as such, any power in controlling the expenditure of the taxation on his property. The subject is further complicated by the fact that in many instances the ownership is divided. Thus a house is frequently owned by a leaseholder for a term of years. The leaseholder pays a ground-rent to the landowner, and receives a rent for the house from a tenant. This is but one instance of the difficulties in the complicated questions which arise from the variety in procedure, joined with variety in tenure. As mentioned above, the purposes for which rates are levied are broadly divided into two heads: I. Government and social administration. II. Improvement and sanitary purposes. The first head includes the expenditure under the poor law, 'the largest branch of expenditure for local purposes of all local burdens. In this item there has been, broadly speaking, a considerable increase.' Though the working of the poor law in England has been open to great objections, yet the parochial system, defective as it is, has done much to counteract many of the abuses of the administration of that law. The operation of the English law of settlement, combined with this strong local interest in the amount of poor rates levied in each parish, led, however, to some abuses, by means of which certain parishes, principally in the hands of individuals, avoided their due share of the general burden. Recent legislation has mitigated some of these abuses. One very important alteration was effected in the law by the passing of the Union Chargeability Act. When the present system of poor relief was first established in England, and for many years subsequently, it is probable that the weight of the tax was borne by the land of the country. The original intention of the legislation of Elizabeth was to combine voluntary with compulsory contribution; where the former method failed, 'it seems to have been thought that the tax could be laid on the occupier without affecting the owner of the land.' — 'Report on Local Taxation, 1843,' p. 33. But since that period a vast alteration has taken place in the constitution of the property of the country, and consequently in the incidence of the tax. This point, namely, the progressive increase of the value of real property other than land, forms so important an element in the consideration of this portion of the question that a table (P) has been added to illustrate the subject, by showing that the alteration in the character of 'realty,' is not the result of any casual circumstances, but of the tendency of affairs in the country generally. This table extends over a period earlier in date than that proposed for this immediate inquiry, but the additional illustration it affords will, it is hoped, be a sufficient justification for its introduction. By its aid it becomes clear that 'lands and other descriptions of real property,' have, broadly speaking, in the course of half-a-century,

changed places in regard to value; and likewise consequently in the amount of contribution to this form of direct taxation. Table P 1 shows the progressive character of the increase. Table P 2 shows, to use the words of Mr. Purdy, that in 1864-65 as against 1851-52, we may say that 10.9 per cent. has passed from the land and gone upon other assessable property. Land would appear now liable to bear rather more than one-third of any burden laid upon real property generally, and real property other than land rather less than two-thirds. With regard to the amount of poor's rates raised in the agricultural districts, the effect of a system of organised poor relief, like that of England and Wales on the wage-earning classes, must not be lost sight of. There is little doubt but that it does to a certain extent cheapen labour. Mr. Purdy considers that 'English poor rates largely supplement wages, and consumers thereby gain some temporary, but, in its consequences, more than doubtful benefit.' Table IV. gives the rate of wages in those English counties in which poor rates are relatively the highest and lowest, and bears out this statement to a certain extent. There are also other large employers of labour in this country beside farmers; and manufacturers of all descriptions participate in this 'doubtful benefit' in a somewhat similar manner, and in the proportion which the cost of labour bears to the total expense of production.

1. The amount levied for poor relief in 1868 was £7,825,592	
2. County, hundred, borough, and police rate—	
a. Contributed from poor rate ...	£2,462,922
b. Levied separately	493,285
	<hr/>
	2,956,207
3. Highway rate—	
a. Contributed from poor rate ...	621,436
b. Levied separately	916,779
	<hr/>
	1,538,215
4. Church rates	217,482
5. Lighting and watching rate	79,393

These complete the rates raised for the purposes of Government and social administration. Some questions have arisen on some of these rates; whether police expenses, the administration of justices, gaols, and some other similar charges do not more properly belong to imperial than to local legislation. These points will be considered further on. The rates raised for purposes of health and local improvements are, speaking generally:

6. Improvement Commissioners.....	£410,105
7. General district rates.....	1,683,702
8. „ and lighting rates in the metropolis.	981,140
9. Rates under courts or Commissioners of Sewers (including drainage and embank- ment rates).....	714,734
10 Rates of other kinds—	
a. Contributed from poor rates...	£152,076
b. Levied separately	224,574
	<hr/>
	376,650

Total (with the amount above)£16,783,220

As stated by Mr. Purdy, in his valuable paper on the Pressure of Taxation on Real Property, in the *Statistical Society's Journal*, vol. xxxii., p. 319: 'Expenditure upon the maintenance and repair of roads and bridges, upon the drainage and embankment of marsh lands, upon the sewerage, paving, and lighting of towns, and upon many other services performed by improvement commissioners, as well as the sanitary measures undertaken by boards of health, are operations signally beneficial to rateable property. So far, therefore, as the property is judiciously assessed, and the proceeds honestly and intelligently administered for these purposes, the local rate is a good investment, for which no enlightened owner will manifest an ignorant impatience of taxation. The imperial taxes and the other portion of the local rates stand in a very different category.' This branch of the question has also been the subject of much inquiry, principally as to the point whether such expenses as are incurred for the improvement of property are in fairness chargeable on the occupier, when the owner is the person principally benefited. Some remarks on this question will be found at p.

Having thus given an outline of the subject, of the amounts annually raised, and of the purposes for which the taxation is levied, it is desirable to enter more into detail on

some of the principal points concerned. Economy in administration is scarcely possible where conflicting jurisdictions and needless multiplications of offices exist. The number of officers employed in the business of the local taxation of the country is very large indeed. No recent and complete returns exist of the number of these officers. The report of the Poor Law Commissioners on Local Taxation in 1843, gives a statement as to their numbers at that time. It contains a list of officers engaged 'in assessing, collecting, levying, keeping, expending, and auditing of local rates and taxes.' Since the date of the report of 1843, no fewer than eleven rates have been created. These are: Burial board rate, public library and museum rate, general district rate, sewerage rate, parish improvement rate, animals' contagious diseases rate, borough lunatic asylum rate, borough library and museum rate, borough baths and wash-houses rate, borough improvement rate, borough burial board rate. The want of system in the local administration of Great Britain appears marvellous to those foreigners who have inquired into it. The different descriptions of local officers correspond with different systems of administration. There are generally at least three different governing bodies in each municipal borough in England and Wales, viz.: The board of guardians for the poor, the town council, the local board of health. The evidence of Mr. John May before the select committee of 1870, sets forth these various jurisdictions in a remarkably clear way. Mr. May describes himself as clerk to the guardians of the Macclesfield union, likewise as clerk to the local board of health, while his partner is town clerk of the borough of Macclesfield. The local board of health and the town council are the same body, but as a matter of convenience they meet separately and on different days, because their functions are different. The town council attends to all matters of police, and appoints various committees, finance committees, general purpose committees and others, levies a borough rate, manages the waterworks, and levies a water rate. The local board manages the gas-works, levies rates for the maintenance of the roads, and for all sanitary purposes, and administers those funds. The town council and the local board keep different sets of accounts, in different sets of books, and have different balances at their bankers. They raise different rates at different times, and have different collectors. These collectors each collect two different principal rates. The borough rate levied by the council is paid out of the poor-rates in the township of Macclesfield, these two rates being collected at the same time by one officer. A cemetery rate and a contribution to the county lunatic asylum, are likewise paid out of the poor-rate. The board of health levy a general district rate, and a lighting rate. These two rates are kept separate, but are collected at the same time. The general district rate is described as being 1s. 6d. in the pound; the lighting rate is 6d. in the pound. These rates are kept distinct in the ledger. The general district rate is levied like all rates under the Public Health Act, with an exemption of 75 per cent. in favour of market-gardens, land, railways, and so forth. The borough rate is levied with the poor-rate, and on the basis of the poor-rate, in which these exemptions do not exist. 'Accordingly the borough rate is levied upon all alike, whereas the general district rate is levied in a different proportion;' while although the purposes of the two rates are not identical, they are 'similar for the general advantage of the town.' The 'borough' and the 'township' are not counterminous, the 'borough' boundary cutting the 'township' into two parts. The part of the 'township' outside the 'borough' pays the county rate, the part inside the borough pays 'county rate exclusive of police,' and borough rate as well, the borough rate being a charge for police only. Though the borough, as mentioned above, contributes to the building of the county lunatic asylum, it has no control over that expenditure except through the county justices resident in the borough, who, however, vote as county justices, and not as the representatives of the borough. The rates for the borough are materially assisted by the surplus tolls on the river Weaver; but the ratepayers of the borough, as such, have no control over the navigation or the expenses. In the modes of electing the governing bodies of the borough a similar diversity prevails as in the proceedings relating to local taxation. There are three elections which occur annually in the borough; the municipal election, the election for guardians, and the proceedings in the vestry in the case of overseers. All these

three elections are conducted with different qualifications, on what may be termed a different register for each. Besides, there is the election of borough members, also on a different register. Thus, there are four registers, the conditions of voting being different in each case, the owners of property having a different position in all. For the vestry and the election of guardians the rate book is the register. For the election of borough members and of the town council, separate registers are made out, with a repetition of expenses in the preparation of those registers. This description of the local government of Macclesfield is taken from the evidence given by Mr. May before the Select Committee of the House of Commons. It is not given here as being exceptional in any way, but as a fair typical example. It now becomes desirable to refer to those charges on local funds which have been thought rather to belong to the imperial budget. The grants by Government in aid of such charges have necessarily to be considered with them. As fresh requirements have arisen in various directions, such as for police, more efficient schoolmasters in workhouses, and some medical changes, &c., the outlay has occasionally been so great that the property liable to assessment in the places concerned has appeared to be inadequate to meet the burdens. Hence arose the necessity of some mode of bringing the imperial exchequer to aid, while endeavouring to avoid endangering the security for economy obtained by the local principle of making those pay who administer the expenditure; and an arrangement for grants in aid has followed. These, as made at present, do not appear to have proceeded on any systematic principle. Like much modern legislation, they may have been based on the rough-and-ready method of the 'rule of thumb' rather than on any more exact arrangement. A more equitable division might be made by enacting that those expenses in the administration of which local knowledge and the desire for local economy are of little or no avail, or in the incurring of which local acquirements have little or no share, should be regarded as fit subjects to be separated from the local and placed on the imperial budget. The existing arrangement is open to great objection, with but few corresponding advantages. A grant made in aid of any branch of local expenditure, the police, for instance, requires a corresponding inspection, to ascertain that the purposes for which the grant was made have been fulfilled. This inspection, if slight, cannot be satisfactory; if complete, involves a system of supervision which would suffice of itself, to the complete administration of everything concerned. To revise these assisted charges, and then to place the whole cost of those retained as of imperial concern on the consolidated fund, would probably result in a considerable economy from the remedial effects of a more systematic arrangement. The country meanwhile would be spared the great and increasing evils of divided local jurisdiction. The principles which apply to the regulation of the police apply with even more force to gaols. No reason can fairly be given for constituting any penalty inflicted by the Imperial Government a charge on local taxation. Does the fact that a rogue reared, say at Cardiff, is captured and convicted at York, render it a fair thing that the ratepayers of that locality should have to contribute at all to his maintenance while he is expiating his offence in the castle or the city gaol? The offence was against the laws of the country: should not the whole of the expense of the administration of those laws be borne by the country? While on this portion of the subject, it is desirable to consider whether any good reason can be given for the maintenance of both a city and a county gaol in the same place, or for retaining a distinction between local and imperial prisons (Hear, hear). It may be added that a complete and uniform administration over the gaols of the country would probably not only lead to some considerable economy, but by strengthening the hands of authority, conduce to a more efficient repression of the criminal and vagrant classes (Hear, hear). Though it is most desirable the administration of ordinary pauperism should rest with the locality concerned, a doubt arises whether the same reasons apply in the case of lunatics or those incapacitated by some bodily defect from gaining a livelihood. That any of the expenses attending the militia should be reckoned among charges to be defrayed by the county, can only be explained by remembrance of the historical position of that force. There can be no doubt that if the militia were of as recent an introduction as the volunteer force, all the expenses entailed by it would be

defrayed from the same source as the latter is. The payments on account of the Registration Act—the expenses connected with parliamentary registration and the cost of the jury lists—also appear to be distinctly expenses incurred for imperial, not for local purposes, and should be dealt with accordingly.” After making some remarks under the head, “Other Sources of Revenue,” including markets, tramways, gasworks, and waterworks, the Essay proceeded to deal with the “Incidence of Local Taxation.” “In London,” it said, “the case of the ratepayer seems, at present, to be a peculiarly hard one: a poor’s rate of £1,683,750 is levied, 2s. 1d. in the pound, with an amount of all other rates of £1,526,844, forming a total rate of 4s. in the pound. Of this latter sum, a portion of about a million a-year is due to general district and lighting rates. As the sewers’ rate and main drainage rate are raised, generally speaking, for permanent improvements, it appears that a tax of nearly half-a-million a-year is levied for these purposes on the householders of London, whose interest in the dwellings they inhabit is usually less permanent than that of any other class of occupiers. The want of a complete system of local government in the metropolis is well known, while the attempts to improve on the existing state of affairs have been many, though hitherto unsuccessful. Some remarkable hints may be obtained from Mr. Pownall’s evidence. The paper handed in by him of the county expenditure of Middlesex shows that while a taxation of £172,127 is annually raised for county purposes, the quarter sessions have real control only over £4,103 (A laugh). These last remarks refer, strictly speaking, to the expenditure of Middlesex, not of the metropolis. The late Sir John Thwaites gave very strong evidence in favour of dividing the ‘municipal, but not parochial, rates between the owner and occupier in equal shares, considering that the owner greatly benefits by the expenditure, and every re-letting improves the beneficial interest that the owner has in obtaining a larger rental.’ As stronger expression of opinion could not well be found in favour of a division of rating between owner and occupier, the compromise suggested seems a fair one: that the division should extend to the municipal, but not to the parochial rates, and be confined, in fact, ‘to taxation for metropolitan improvements’—to the taxation which tends to the permanent improvement of property. ‘The question as to the incidence of taxes as between owners and occupiers gave rise to a considerable conflict of opinions from those who gave evidence on the subject before the select committee of last year. The discrepancy of opinion marks with a something approaching to precision the division between the rural and the urban ratepayer.’ The fact that the occupier pays the rate himself not unnaturally leads him to the idea that he bears the burden entirely, and alone; but in a vast number of cases this is an erroneous impression. The owner bears his share in the diminished rent which the property produces where the rates are excessive. This state of things holds good in those hirings in which the demand is not in excess of the supply. Here the broad distinction between house property and property in land, between the property which can, and that which cannot, be increased in quantity at pleasure appears at once. When considerable local improvements have been made, and the amounts needed for the purpose borrowed on security of the rates, on the usual provision that a certain proportion of the principal of the loan as well as the interest should be defrayed by the proceeds of a rate levied yearly, there can be little doubt but that, at the end of the term, if the prosperity of the country remains then the same as now, and the locality continues in the same request, the landlord would, as each house became vacant, be able to exact from the hirer the old rent, plus the rate which would have terminated, the amount of the rate having, through lapse of time, become incorporated with the hiring value of the house. Thus the improvement of the locality would be effected with the tenant’s money, to his immediate, as well as abiding, prejudice. Another objection sometimes made to the levying so large a portion of local taxes on house-rent is that the impost thus becomes a tax on a particular description of property, to the exclusion of the other means the householder may possess. But this is not in reality a valid objection. ‘No part of a person’s expenditure,’ as Mr. Mill has well expressed the case, ‘is a better criterion of his means, or bears on the whole more nearly the same proportion to them. A house tax is a nearer approach to a fair income tax than a direct assessment on income can easily be, having the great

advantage that it makes spontaneously all the allowances which it is so difficult to make, and so impracticable to make exactly, in assessing an income tax; for if what a person pays in house rent is a test of anything, it is a test not of what he possesses, but of what he thinks he can afford to spend.’ Proper allowances for premises employed for trade-purposes, or let as lodgings, are essential to the fair apportionment of a house tax, as well as a careful adjustment of the proportion of the burden levied for permanent improvements between owner and occupier. When these points have been attended to the tax seems as fair an impost as can be made. The existing plan in Scotland is to divide most rates equally. This may be desirable where the plan has existed from time immemorial. A large and sudden increase in the taxation of a particular form of property is open to many objections, and would probably be very unjust to a vast number of the persons concerned. The method followed in Liverpool, when the corporation waterworks were established, may be cited as almost the only instance in England of a division of a large amount of rating in modern times between landlord and tenant. Here the division of rating, though only the moiety of one rate, amounted to a property tax of 1½ per cent., which represents 3d. in the pound. The half of one rate, however, is a very different and much smaller charge than the half of all the rates, a division which, it is probable, would not have been assented to with equal readiness by the house owners. Other witnesses who gave evidence before the committee seem to have thought, and with some appearance of probability, that a large addition of taxation to the owner might lead, at the commencement at all events, to some retaliating charge to the occupier. It may hence be desirable that the division should not be made according to the Scotch scale, but on some intermediary plan, allotting, say, one-third to the owner, two-thirds to the occupier. It might also be considered whether in certain districts, and especially in the case of owners of ground-rents in towns, a fixed scale of division might not be objectionable; and, as an alternative, an apportionment according to the circumstances of each case or district might be made with advantage by a jury, by commissioners, or by some enlargement of the powers of the ‘General Assessment Sessions.’ For the better guidance of procedure, certain fixed limitations, that the proportions should not exceed certain limits (those given above, for example) in either direction, either to the owner or the occupier, would be desirable. It is now needful to refer to the alteration in the incidence of local taxation which has, in this country, followed the altered proportions of the two main divisions of real property. The great and progressive increase, especially of late years, of houses and other real property ‘other than land’ was referred to before.” Mr. Palgrave here observed, parenthetically, that he had drawn up a vast number of tables, in order to trace out this matter, and pointed to two tables on the wall by way of illustration. One of these, he remarked, was, as he was informed, the largest table ever exhibited in that room. The following is an exact copy of the smaller table:

TABLE A.—RATE IN THE £.									
		Poor Rate.		County Rate, &c.		Improvements.		Total Rates.	
		s.	d.	s.	d.	s.	d.	s.	d.
Average of All Eng-land		1	6½	1	0½	0	9½	3	4
a {	Middlesex	1	6½	0	10½	1	6½	3	11½
	Surrey	1	9½	0	11½	1	8	4	5½
	Kent	1	7½	1	2½	0	11½	3	8½
b {	Lancashire	1	4½	1	4½	0	7½	3	5
	West York	1	3½	1	2½	1	1½	3	7½
	Durham	1	3	0	8½	0	9	2	8½
	Northampton ...	1	8½	1	2	0	3½	2	8½
	Salop	1	0½	0	8½	0	3½	2	0½
	Warwick	1	8½	1	6½	0	3½	3	1½
c {	Norfolk	2	0	0	8½	0	4½	3	1
	Sussex	2	0½	1	1½	0	9½	4	0
	Wilts	1	11½	1	0½	0	2½	3	2½
d—Lincoln		1	2½	1	2½	0	7½	3	0½

Referring to tables "I," "J," and "K" relating to the position in 1868 as to all rates of the towns in England and Wales returning Members to Parliament in the year 1862, with the exception of the metropolitan boroughs, these places having been selected, it was remarked as forming as fair a guide to the urban, distinguished from the rural population, as circumstances admitted. "The general results," said the Essay, "are as follows: Table I shows that the places named pay a total rate of 3s. 11½d. on the rateable value for all rates. The summary in Return 437 (1870), dividing the local taxation in 1868 between rural and town unions, states the total taxation of the town unions as 4s. in the £. The method followed in the return made by the Poor Law Board does not exactly correspond with that adopted in this Paper; but the coincidence is so close as to show that the general results may be relied on. Table J shows that the same places average for poor-rate 1s. 8½d. in the £, while all other rates are 2s. 2½d. England generally, as shown in Table A, averages 1s. 6½d. in the £ for poor relief. 'The foregoing tables,' said the Report on Local Taxation, 'appear to prove conclusively that, as in looking to the counties as units, the great increase in the aggregate of local burdens was found to be in manufacturing and urban counties; so, in looking to the unions composing each county the urban unions are subject to by far the heaviest taxation.' By Table K, it is shown that in the towns, as in the counties (the counties are found in Tables A and G), local government causes a far alighter taxation than local improvement. The local government rate for the towns averages only in the aggregate 8½d. in the £, while local improvement reach 1s. 5½d. in the £, involving a taxation not far short of the poor's rate. The local government rate cannot, however, be taken as in any way representing the real cost of local government. The note on Table VI. shows the large sum derived from the corporation estate at Liverpool in aid of the borough fund. Similar property and tolls, such as harbour dues and river dues, are applied to a like purpose in many other boroughs. The large amount levied for improvement rates, about £1,700,000 for the towns, nearly £500,000 for London, must be regarded as a tax levied on occupiers for the ultimate benefit of owners, principally of house property. Local taxation has sometimes been considered as unequal taxation, it therefore becomes desirable to inquire where this inequality exists. Table D gives the incidence of the poor's rate according to population. The position of some of the agricultural counties in this table is very noticeably high. It is desirable to refer to Tables M and N, in which the proportion of the assessment under Schedule A is given for certain counties of England for the years 1803 and 1866-67. Their position at the earlier date is given to show that the condition of these counties in this respect has remained nearly uniform, notwithstanding the great changes in the relative proportions of the various descriptions of property in the country indicated in Table P. It will be observed that although, as shown by these latter tables, especially Table P, that real property 'other than land,' is now the bulk of real property in England, the agricultural counties have still maintained their position as to the relative proportions of wealth, calculated according to the numbers of the population. Hence, it will be seen that although the agricultural districts are all rated high for poor's rate, and high for all rates in proportion to their population, they stand equally high in the scale of property, and consequent ability to bear taxation. In prosecuting this inquiry it now becomes desirable to ascertain what the effect of levying the poor's rates on an income tax assessment would be. To show the result completely, the income tax for certain places named has been calculated as a rate in the £ on the rateable value, and also an estimate has been made to the effect of a levy of the poor's rate on a property and income tax assessment. Tables F, H, and L contain the results which the income tax, under Schedules A, B, D, E, 1862, would show if, instead of being raised in the present manner, it were levied as a tax on rateable value. Tables F and H gives these particulars for the counties. The income tax is usually considered an equal charge, as far as the comparison of one place with another is concerned, but if it were levied, like the poor rate, on the rateable value, it would appear to show nearly as great inequalities as the existing local taxation. In tables G, and D, D, the result of levying the poor's rate on the assessments under schedules A, B, and D, is shown.

Such an assessment would bring income (Schedule D, representing trades and professions) largely into the account. But, as shown in table G, the results differ very slightly indeed from a poor's rate levied, as now, on the rateable value. Even including Middlesex, the results (taken on the basis of representing by 100 the maximum rate) vary from 33 to 100, while on the rateable value they vary from 37 to 100. The agricultural counties generally, with the exception of those in the north, are very high in the scale on both instances. The industrial and manufacturing counties find their position slightly lower. It appears clear that as regards the poor-rate, neither an equalising of taxation, nor a gain to those counties which appear heavily weighted, would be caused by an alteration in the mode of assessment from property to an income-tax basis. The counties generally in the two columns on table G maintain their relative position with great closeness. Individuals in each place would find their burthens lightened or increased—but to the community at large, taking district by district, the alteration would be but trifling. On many accounts a great and permanent increase to the income and property tax is exceedingly to be deprecated. This subject is so important that a further space will be devoted to its consideration. A persevering effort has continually been made in late years to charge certain large items of expenditure, which have hitherto been defrayed from local taxation, on the consolidated fund. The poor's rate has been one of the charges thus named, and the income tax pointed to as the best method of bringing 'means and substance' in the Scotch sense into contribution. To place the poor's rate on the general taxation of the empire, and to add to the income tax in proportion—would require that tax at one stroke to be doubled—a 10d. or 11d. income tax would probably have to be levied in ordinary years. This, too, only at the existing rate of expenditure for the relief of the poor. It cannot be doubted, also, that such a step, removing the advantages of local supervision, would tend at once to a large increase of the expenditure; while the imposition of a high rate of income tax is known, unfortunately, to lead to increased evasions and fraudulent returns. It must also be remembered that the experiment has been tried. That income has at times been brought into contribution for local rates both in England and in Scotland; that in both countries the method has been completely, and it is to be hoped finally, abandoned. A short historical outline of the effect of rating stock in trade in one particular branch of industry in England is not out of place here. The original intention of the statute of the 43rd of Elizabeth, the basis of English legislation on the subject, has been construed to include stock in trade. The impolicy of the practice, the anomalies which it would involve, the difficulties which were experienced in carrying it into effect, have caused the plan to fall into disuse. The following remarks on this subject, from the Report on Local Taxation of 1843, put the matter in the clearest light. As it may be held that, were the custom universal in the United Kingdom, such a migration of an industry from one district to another as appears to have been the result of the partial infliction of the impost therein described would be impossible, it is sufficient to reply that a migration of an industry, and the attendant capital, from Great Britain to a colony or to some foreign country is scarcely attended with more difficulties now than a migration from one district of England to another a hundred years ago (Hear, hear). 'The practice of rating stock in trade never prevailed in the greater part of England and Wales. It was, with comparatively few exceptions, confined to the old clothing district of the South and West of England. It gained ground just as the stock of the woolstaplers and clothiers increased, so as to make it an object with the farmers and other rate-payers, who still constituted a majority in their parishes, to bring so considerable a property within the rate. They succeeded by degrees, and then followed upon their success a more improvident practice in giving relief than had ever prevailed before in England (Hear, hear). It was in this district, and at this time, that relief by head-money had its origin, and produced its most conspicuous effects in deteriorating the habits and depreciating the wages of the agricultural labourer. When the practice of rating stock in trade was fully established in this district, the ancient staple trade rapidly declined there, and withdrew itself still more rapidly into the northern clothing districts, where no such burden was ever cast upon the trade. Whether

this transfer of business was in any way aided by the imposition of the burden of the poor-rates, county rates, highway rates, and other rates upon stock-in-trade in the one district and the exemption in the other, cannot perhaps now be distinctly proved; but it is undeniable that the operation must have been in effect a discriminating tax of very considerable amount against the trade of the one district, and therefore proportionally in favour of the trade of the other. In both districts the industry was of ancient growth, but hitherto the southern district had had the advantage; for the natural and acquired advantages of the two districts are in most respects such as rather to have favoured the southern district; the density of the population, the possession of an indigenous raw material of a good quality, the proximity to the ancient and important seats of commerce, London and Bristol, the possession of valuable coal-fields, the investment already effected of a capital greater than had ever, until very recently, been invested in any branch of English manufacture, unlimited resources available for new investments in the accumulated wealth of the district, above all, the possession of unequalled skill for which, and for a superior kind of produce, it even yet retains a character, were advantages apparently sufficient of themselves to have enabled the district to have maintained at least an equality with its rival in the north." The closing remarks in the Essay were as follows: "The conclusion appears clear. The present mode of raising a tax for local purposes by an assessment on the rateable value appears to be a fair one. Certainly as equal in incidence as the existing property and income tax. The inequality that exists resides not in the mode of raising the revenue, but in the application of the sums raised. Taxes for the relief of the poor, for local government, for general government, for local improvements; taxes levied for very different objects are raised in the same manner on properties for the most part belonging to one set of persons, and occupied by another. There are very material distinctions between the application of the various sums raised under the general description of local taxes. There are very material distinctions between the interests of owners and occupiers in the same property which the existing arrangements do not notice. The purely local should be completely separated from the imperial taxes. When this is completed, there will yet remain to carry out the principle of no taxation without representation; to abolish all *ex officio* authority; to give the county ratepayer a voice in the administration of the sums to which he contributes. There will yet remain to bring the owner, whether of land or of house property, the person ultimately most concerned, into council, to decide what charges should be placed on his property. Lastly, it appears desirable to divide at least the rates levied for purposes of improvement, if not all rates, between the owner and the occupier. Leasehold property presents some points of difficulty; but the recommendation to exempt the owners of such property for a certain number of years, and then to allow them to add a fair proportion of the fresh tax to their rents seems an equitable solution of the difficulty. It is probable that reduction in local taxation must be looked for in a different direction. Administration affords the widest field. The economy which it cannot be doubted would result by concentrating a complete control of the expenditure under the eyes of the ratepayers; the economy to be effected by systematic management, by a reduction in the number of duplicate offices, in the expenses of collection, by the adoption of a well-organized local government, can hardly fail to be very considerable. A well-organized system of local government is, however, beyond the scope of this paper. It is most likely that the fact of uniting all local charges in one general rate, with a complete and uniform system of accounts for the United Kingdom, would speedily attract so general an interest to the subject, that a revision, and it is to be hoped an amelioration, of the existing legislation would shortly follow." Mr. Palgrave added that he wished to observe that, however the results given in that paper might coincide with those contained in Mr. Goschen's Report, that was not because there had been any imitation on his part, but because the facts did not admit of any other conclusions being drawn. It was a matter of great satisfaction to himself that the accuracy of his investigation was proved by the official tables which had been issued after careful inquiry. In what he had written, however, he was actuated by no personal or party bias (Hear, hear). Pure statistics knew no party, and it was as a contribution to

statistical science that he placed that paper before the meeting (cheers).

The CHAIRMAN, after thanking Mr. Palgrave on behalf of the meeting, observed that the subject naturally divided itself into three parts—first, the administration of local rates; secondly, the objects for which they were raised; and, thirdly, the proportion of assessment on real and personal, and on urban and rural properties. He added that it was fortunate for Mr. Palgrave that the statistics in his essay, and those contained in Mr. Goschen's Report compiled with all the aids and resources of a great official department, appeared to be almost identical, and that the general conclusions arrived at by Mr. Palgrave and Mr. Goschen were almost exactly the same. It happened, too, that there had been received from America, almost at the same moment, a report on the local taxation of the State of New York, issued by a Commission which was presided over by Mr. David Wells, whose name must be familiar in this country, and also a report from Dr. Hancock, on the local taxation of Ireland; so that the discussion of that important question would take place with the advantage of the fullest information from other countries (Hear, hear).

Sir MASSEY LOPES, M.P., said he felt considerable diffidence and difficulty in dealing with so extensive and abstruse a subject as that of local taxation, and would condense his remarks in a few sentences; but as it was one in which he took a deep interest, he wished to make a few observations (Hear, hear). There was much in the elaborate essay of Mr. Palgrave in which he cordially concurred. He agreed with that gentleman and with Mr. Goschen as to the desirableness of having a consolidated rate—a change which was recommended in the report of the select committee which sat last session, and which, therefore, was not new. As regarded the constitution of the parochial and county authorities, he thought what had been proposed was also an improvement; also the mode of collection and audit; but with respect to the objects of local taxation, he differed from Mr. Palgrave, who had not, he thought, classified those objects as distinctly as he might have done. There was an essential distinction between rates levied for national purposes concerning the whole community, and rates levied for local purposes concerning merely the particular district in which the expenditure was incurred, and which derived the exclusive benefit. Mr. Goschen, in introducing this measure, stated that in the year 1868 the sum of sixteen or seventeen millions was raised by local taxation. The estimate included all local rates, but that was unjust. Of the total which he had mentioned, eleven millions was for poor rates and county rates, and the remainder for what were strictly local rates, and they (the agriculturists) had nothing whatever to do with local or improvement rates, which benefited only a small part of the community, and were entirely voluntary. He did not agree with Mr. Palgrave, he might remark, that all local taxation was indirect taxation; but as regarded improvement rates, those by whom they were paid had their *quid pro quo* in the sanitary and other benefits which they received. As regarded the report published the other day by the Poor Law Board, he must say that he never saw a more complicated or unsatisfactory document. It was there stated that in the rural unions the ratepayers paid only 2s. 9½d. in the pound, while in the town unions the rates amounted to 4s. That statement was manifestly unfair, and he would endeavour to prove that. As he had before stated, the total of 16 or 17 millions included all local rates. He (Sir M. Lopes) asked for a return, showing what was the amount in the pound in both town and county for poor and county rates (exclusive of the strictly local rates), and what was the rate for poor only. This was granted, and it then appeared that in the rural districts the amount was 2s. 0½d., and in the towns 2s. 6d. for poor and county charges; while it further appeared that in the case of the poor rate alone the amount was in the rural districts 1s. 5½d., and in the towns 1s. 7½d. That went very far towards destroying the value of Mr. Goschen's report, which seemed calculated to give a colour of truth to the notion which had gone abroad that the rural districts were very lightly taxed as compared with the towns. In the Parliamentary Committee of last year he proposed that rates which were not levied for permanent improvements should be divided between owners and occupiers, but he was not in favour of dividing all rates between them, and he believed that as regarded the interest of tenants it would be a mistake to disturb existing arrangements so as to give many landlords who desired it a pretext for having their estates revalued. He should have been glad

if Mr. Palgrave had given them a comparison of the rates, both local and imperial, which were paid by real and personal property. He (Sir M. Lopes) wanted to know how much was paid by a man who received a thousand a year from the funds, and how much by a man who received the same amount from real property. He thought the comparison would be greatly in favour of personal property, and to him it seemed very desirable that the matter should be fairly tested. Speaking for himself and for many others who occupied a similar position, he would declare that they had no desire for any favour or affection in that respect (Hear, hear). All they asked for was an impartial investigation, and he for one would say that if on a fair investigation it were found that land was too favourably dealt with at present, he should be quite prepared to pay his fair proportion of taxation (Hear, hear).

Sir E. WATKIN said that as they had heard a good deal about the payment of so much in the pound he should like to know what a pound meant (Hear, hear). They all knew that in some parts of England a house was rated for poor-law purposes at 25 per cent. of its value, in others at 50 per cent., and in others again at the full value. He recollected that the great ancestral house of Stowe, in Buckinghamshire, which probably cost half a million of money, and was surrounded by 500 acres of land, was formerly assessed at £500 a-year. He presumed that was not the case now. There was great difficulty in making comparisons, but under the present system there had been an almost universal attempt on the part of ratepayers to shift their burdens to the shoulders of others. What was the sound principle of assessment? Clearly the object ought to be to do all the good they could by means of local taxation, and to spend as little money for that purpose as possible. As regarded the method of attaining the object, they should endeavour to make every man pay according to his ability, but the great crux of the question was to find out how to do that. Hitherto they had tried to accomplish that by assessing the value of particular properties, but in his opinion that effort had proved a dead failure. He had known cases in the Midland counties in which property was assessed at only 15 per cent. of its value, and he had known other cases in which the unfortunate clergyman and an equally unfortunate railway company bore 80 or 90 per cent. of the burdens of the parish. The principle of an income-tax seemed the fairest, but it would be difficult to carry it out in practice, and the experience gained in the United States showed the futility of attempting to raise local taxation from what was not visible and tangible.

Mr. C. S. READ, M.P., thought that if Sir Edward Watkin belonged to an assessment committee he would soon find that in these days property was assessed pretty nearly to its full value, and that comparing like with like it was generally put on a fair scale. He (Mr. Read) concurred in the opinion that the old law of Elizabeth embraced the just principle which should be followed, namely, that every man should be assessed and contribute to the poor-rate according to his "ability." With regard to the able paper of Mr. Palgrave, he would first observe that if the duties of county financial boards were to exclude matters strictly Imperial, there would be very little left for them to do. As to the incidence of taxation, there were many rates in towns which were so essentially local that it would be as unfair to ask others to contribute to them, as it would be for the county of Norfolk to ask the people of London to pay for the drainage of their fens.

The CHAIRMAN remarked that Mr. Palgrave's conclusions were very much the same as those stated by Mr. Goschen in his recent speech. He must say, however, that he very much preferred the conclusions in the paper; for, whereas Mr. Goschen said in effect, that there was no reason whatever for a general revision of taxation, he certainly understood Mr. Palgrave to mean that some charges which were now borne out of local funds ought to be borne by the Imperial Exchequer (Hear, hear).

Dr. FARR said Sir Edward Watkin having laid it down that every man should contribute to taxation in proportion to his ability or income, he wished to observe that he and others in that room had always contended that the amount of income did not fairly represent the ability to pay a tax. One man had an income of £1,000 a-year from the funds, another an income of £1,000 a-year from land, and a third an income of £1,000 a-year from a profession. In the two first cases the £1,000 a-year might be worth £30,000; in the last, probably,

it was not more than £7,000. Could it be maintained, then, that the ability in those three cases was exactly the same? Sir Edward Watkin was an old advocate for putting a sort of differential value upon incomes of different kinds; and he (Dr. Farr) wanted to see the elements of risk and uncertainty equated.

Professor WALEY believed that the fair criterion of ability to pay taxes was to be found, not so much in income as in expenditure. It would be exceedingly unfair for Parliament to say that one kind of income was worth so much, and another so much. The argument for such a course had been stated with great ability by the Chairman before a committee of the House of Commons, but his illustration of the cases of two sisters was exceedingly puzzling, and even he appeared to find it very difficult to get out of the complication. He (Professor Waley) had long considered the value of an occupation was the best basis for local taxation, and he believed the farther they wandered from that the greater would be their difficulties.

Mr. HENDRIKS thought that there must always be immense difficulty in localising personal property for the purposes of local taxation. A large proportion of the shopkeeping class lived on a system of credit, and notes of indebtedness were in many cases exchanged between different members of the same family. Moreover, it was an historical fact that the system of taxing personal property had been tried, and had utterly failed. It had been found utterly impracticable to raise local taxation, and, to some extent, even imperial taxation, on the basis of personal property, as regarded a very large class of the community, the necessary exceptions being so numerous as to break down the system. [A MEMBER: "Stock-in-trade."] Under the old aids and subsidies, stock-in-trade was always assessed at a lower rate than real property, but even at that lower rate the result was not satisfactory.

Mr. POCHIN was of opinion that taxation for the improving of streets, the facilitating of traffic, and whatever tended to increase the rates of occupiers, should be borne to a large extent, if not entirely, by the landlord. He looked forward with great satisfaction to a probable change in that direction.

Professor LEONE LEVI said Mr. Goschen in his report showed that real property was not more highly taxed than it ought to be. He showed that during a period in which local taxation increased from £20,000,000 to £30,000,000 a year, real property rose enormously in value, so that, in fact, the taxation on real property was less than it was before. If they compared the taxation of land or real property in this country with the same kind of taxation in other countries, they would find that the former was charged by far the least. It was stated by Mr. Goschen, that while in England real property was taxed to the extent of 11.52 per cent., in France it was taxed to the extent of 29 per cent.; and in other countries there was a similar difference in favour of real estate in England. Moreover the value of land here was greater than ever. He thought, therefore, Mr. Goschen was justified in his conclusion, that there was no reason for making any change, except by substituting a consolidated rate for the various rates now levied.

Mr. L. H. COURTNEY regarded the proposal to apportion local taxation between owners and occupiers as mere rubbish—a palliative meant to soothe the discontented. He could see no utility in transferring local burdens from occupiers to owners, especially as all such matters must be readjusted in subsequent lettings. If he were asked to suggest a better system, he would recommend that Parliament should ascertain the average amount of the poor rate, and other permanent rates for the last ten years, and then let that be commuted into a permanent charge upon the land, and that the basis of all further charges should be not land but houses. The taxation would then be adjusted in accordance with the relative ability of the ratepayers of the district.

Mr. PELL, M.P., said that Professor Levi had raised the question whether or not real property was rated higher than it ought to be. That was a very large question, and he should despair of to-night dealing with it satisfactorily; but one thing was certain, namely, that land was rated much more heavily than it used to be. Whether the charges upon land were equal as compared with those on personal property was an open question. The Professor said that the value of land in England had of late years enormously increased, implying that it was reasonable that the charges on it should increase

proportionately. But how had the value of land increased? Why, to a great extent, through the sinking in it of a vast amount of personal property. That was especially noticeable in the fen districts, where for several years a tax as high as a guinea an acre had been levied for the recovery of land from a state of swamp and waste. Money sunk in the improvement of real property in England, whether in the building of labourers' dwellings, in draining, or for other useful purposes, was not treated in the same manner as money sunk in industrial or commercial occupations. If £1,000 were spent in the draining or improved cultivation of land, an increased assessment to the poor-rate soon followed; but no such result followed an investment of the same amount in stock in trade. The balance of account between imperial and local taxation required to be adjusted, and he trusted that the time of adjustment was not far distant. At present the relative position of real and personal property as regarded local burdens was manifestly not what could be termed square. If it was square a few years back, its balance was now destroyed by the charges for new objects, such as education, and he maintained that there should be at once a complete and searching inquiry into that question.

Sir M. LOPES, adverting to the remarks of Sir Edward Watkin, observed, in explanation, that he had never advocated the levying of an income tax for local burdens, believing as he did that that would be impracticable. What he desired was a national contribution for purposes which were national, and especially for the lunatics, the police, the administration of justice, and the militia.

Dr. GUY agreed with Sir Massey Lopes that such burdens as he had just referred to properly belonged to the nation, and not merely to a locality. Crime and vagrancy clearly concerned the whole country. The maintenance and preservation of the roads was also a matter of general public interest. He did not think the measure recently introduced in the House of Commons should be permitted to proceed. It was a poor measure at the best—a mean and paltry measure, and the question at issue required to be dealt with in a very different manner.

Mr. DUDLEY BAXTER defended himself against an assumption of Dr. Farr, that he had advocated all personal property or income being dealt with in the same manner as real estate, as regarded the incidence of taxation. What he had advocated, he said, was a high rate of charges for real estate, a lower rate for personal estate, and a still lower rate for industrial incomes—the latter part of his proposal being supported by the authority of Mr. Mill. After listening to Mr. Hendrik's remarks that evening in reference to the debts of traders, he could not help observing that his own remarks upon the mortgages on land on a former occasion were received in a very different spirit; in fact, with something like a cheer of derision (Hear, hear). He wished to know why there should be such a distinction. As regarded the comparison between land and personalty, Mr. Goschen came to the conclusion that land had been lightened in taxation and houses weighted; but that conclusion was arrived at in an unsatisfactory manner, for the right hon. gentleman did not distinguish between the two kinds of expenditure (Hear, hear). He lumped together the taxation on personalty and the tax-

tion on industry; and as at Oxford he was no doubt a disciple of Aristotle, he ought to have carefully distinguished between different kinds of taxation. There were other things of the same kind, and what possible useful result could there be from such a muddle? He protested against the course pursued by Mr. Goschen, and maintained that a careful examination would show that instead of the taxation of agricultural parishes being lighter than that of towns it was far heavier. When all the inaccuracies in Mr. Goschen's Report came to be explained it could not stand; and if the country was to be swayed by facts and figures, the Government Bills must be withdrawn.

Mr. GLOVER must confess that he was in favour of something far wider than the measure of Mr. Goschen, as he did not see how it could lead to an equitable readjustment if the burden of maintaining the poor and other imposts. He hoped the time was approaching when every man would be told once a year how much he ought to pay as his share of all expenses, local and imperial.

Mr. PURDY said, notwithstanding what had been said that evening, he believed the report which had been referred to clearly showed that it was nothing but bucolic ignorance which had led so many persons to suppose that land bore a larger proportion of the burdens of the country than other descriptions of property.

Mr. C. S. READ, M.P.: Land and houses.

Mr. PURDY believed that was in Mr. Goschen's mind when he asked him to draw up his tables. The conception was Mr. Goschen's, not his. He carried out his instructions to the best of his ability, and got all the facts from Mr. Ward Hunt's return. As to Mr. Dudley Baxter's paper on the subject, it was one of the most ingenious applications of statistics that he ever saw; but in point of fact, it was a mere shuffling of the statistical cards.

Sir M. LOPES, M.P., and Mr. DUDLEY BAXTER rose together, and protested against the language of Mr. Purdy, the former alluding especially to the term "bucolic," and the latter to the phrase "shuffling of the statistical cards."

Mr. PURDY observed that he had not intended to give offence, and was provoked by the attack made on his figures.

Mr. FRX pointed out the difficulty of distinguishing between local and national purposes. The relief of the poor was as distinctly a national object as any object could be. Public education was also national; so also were the public health, and vaccination. In short, there was hardly any purpose for which local rates were levied that was not of a national character.

The CHAIRMAN, in summing-up the discussion, observed that the Report of Mr. Wells with regard to the local taxation of the State of New York was a most emphatic condemnation of any attempt to assess property that was not fixed, visible, and immovable, and expressed his conviction that the statements in Mr. Goschen's Report with regard to the relative taxation of real and personal property, must, if they were to be set aside, be more satisfactorily met than they had been by Mr. Dudley Baxter. The Paper and the discussion could not, he added, fail to serve a useful purpose.

The proceedings terminated with a vote of thanks to Mr. Palgrave.

THE MOISTURE IN OUR SOILS.

BY CUTHBERT W. JOHNSON, F.R.S.

In the last number of the Journal of the Royal Agricultural Society the report of the result of some examinations of the moisture of our soils contains very important facts. And, moreover, they will lead to far more extended researches, to which I have long directed the agriculturist's attention. These examinations of the moisture contained in our soils at various depths from the surface, and when those soils have been dressed by various fertilizers by Mr. J. B. Lawes and Dr. Gilbert, will be found in a report of the effects of the drought of 1870 upon some of the experimental crops at Rothamsted. These laborious examinations are not only valuable in themselves, but

they lead us very naturally to the far more important inquiry whether, by improved modes of treatment, and by certain dressings of the soil, its aqueous portion cannot be very beneficially increased.

Now, we must not forget that all the moisture of our soils is supplied either in rain or in the insensible moisture of the atmosphere; and, moreover, that that insensible moisture is ever present in the air, and in the largest proportions in the summer months, when our crops need it the most. It will also be well if we also recollect that those soils which absorb the largest portion of insensible vapour from the atmosphere command the

highest rents; and again that when the soil is dressed with various manures in separate plots, that plot to which farmyard manure is applied is found to contain the greatest amount of moisture. And, moreover, that farmyard manure and other of our most valuable fertilizers are precisely those which also absorb the greatest amount of aqueous atmospheric vapour. In so important an inquiry I need hardly apologize for again repeating what I some years since had occasion to remark when addressing myself to the great question of the water-absorbent power of different earths, soils, and manures. It should, indeed, be far more generally remembered that the earths found in cultivated soils have a very considerable attraction for atmospheric moisture; and that when they are mixed with organic decomposing substances or pulverized this power is materially increased. This property of the earth he cultivates cannot be too carefully kept in view by the agriculturist. It is one of the chief reasons why fallowing, deep ploughing, or subsoiling are so fertilizing in their effects, and why plants growing on well-cultivated soils are able to maintain themselves in health, even in the driest seasons. The extent of this attractive property of the earths and soils may be ascertained experimentally, by exposing a given weight of the previously well-dried earth to a moist atmosphere for a stated period, and then weighing it again to discover the amount of the moisture absorbed.

In my own experiments with various earths and soils, the specimens were previously dried in a temperature of 212, and then exposed to air saturated with moisture at 60 for three hours, under these circumstances:

1,000 parts of a clay soil gained	29 parts.
1,000 " coal ashes "	14 "
1,000 " lime "	11 "
1,000 " gypsum "	9 "
1,000 " chalk "	4 "

And when exposed for eighteen hours to air at the temperature of 62:

1,000 parts of rich soil near Maldon, in Essex, worth two guineas an acre, gained	... ..	25 parts.
1,000 parts of the same field which had been salted with 12 bushels of salt (made chiefly from sea-water) per acre gained	... ..	27 "
1,000 parts which had been salted with 6 bushels per acre gained	... ..	26 "

In the experiments of Professor Schubler the amount or the moisture absorbed by the earths was ascertained at different periods, viz., 12, and 72 hours; the temperature of the atmosphere in which they were exposed was between 59 and 65, and each earth was spread over a surface of fifty square inches. The amount absorbed is stated in grains—

1,000 grains of	12 hours.	72 hours.
Silicious sand	0	0
Calcareous sand	2	8
Gypsum powder	1	1
Sandy clay	21	28
Loamy clay	25	35
Stiff clay	30	41
Grey pure clay	37	49
Fine lime	26	35
Fine magnesia	69	82
Garden mould	35	52
Arable soil	16	23
Slaty marl	24	33

Davy saw this property of all soils in its true light. "The soils," he said, "that are the most efficient in supplying the plant with water by atmospheric absorption are those in which there is a due mixture of sand, finely divided clay, and carbonate of lime (chalk), with some animal or vegetable matter; and which are so loose and

light as to be freely permeable to the atmosphere. With respect to this quality, carbonate of lime and animal and vegetable matter are of great use in soils: they give absorbent power to the soil without giving it tenacity. Sand, on the contrary, which also destroys tenacity, gives little absorbent power; I have compared the absorbent power of many soils with respect to atmospheric moisture, and I have always found it greatest in the most fertile soils, so that it affords one method of judging of the productiveness of land."

1,000 parts of a celebrated soil, from Ormiston in East Lothian, when dried at a temperature of 212, gained in an hour, by exposure to air saturated with moisture at temperature 62°, 18 parts.

1,000 parts of a very fertile soil from the banks of the River Parrett, in Somersetshire, under the same circumstances, gained 16 parts.

1,000 parts of a soil from Mersea, in Essex, worth 45s. an acre, gained 23 parts.

1,000 parts of a fine sand from Essex, worth 28s. an acre, gained 11 parts.

1,000 parts of a coarse sand, worth 15s. an acre, gained 8 parts.

1,000 parts of the soils of Bagshot Heath gained only three parts (*Elemts. of Agri. Chem.*, p. 183).

It is evident, therefore, that the power of absorbing moisture is in a great degree the measure of the fertility of a soil.

Another important property of soils to be considered by the farmer, when he is endeavouring to improve the composition of his land by an admixture of earths, is the property which these possess of retaining their moisture, when exposed to the action of the atmosphere; this property has also been examined by Professor Schubler, and his experiments are very valuable to the cultivator, as comparative results; otherwise experiments of this kind carried on in a close room always differ very materially in the amount of evaporation from that of the same soil in situations exposed to the wind and sun.

The following table, observed the Professor, contains the results of my experiments in reference to this point, with 200 grains of the several earths at a temperature of 65½ degrees, spread out over a surface of ten square inches; and in stating the results of all these experiments, the quantity of evaporation is given, as from every 100 parts of water contained in the earth:

Siliceous sand...	evaporation in four hours	88.4
Calcareous sand	" "	75.9
Gypsum powder	" "	71.7
Sandy clay	" "	52.0
Loamy clay.....	" "	45.7
Stiff clay, or brick earth	" "	34.9
Pure grey clay...	" "	31.9
Fine lime.....	" "	28.0
Magnesia.....	" "	10.8
Garden mould...	" "	24.3
Arable soil	" "	32.0
Slaty marl	" "	68.0

The comparative absorbent power of various fertilizers for the aqueous portion of our atmosphere some years since engaged my attention. In the following trials the animal manures were employed without any admixture of straw:

	Parts.
1000 parts of horse-dung dried in a temperature of 100 degrees absorbed by exposure for three hours to air saturated with moisture at a temperature of 63 degrees	145
1000 parts of cow-dung under the same circumstances gained	130
1000 parts pig-dung	120
1000 parts sheep-dung	61
1000 parts pigeons' dung	50

The following were dried at 212 degrees :		Parts.
1000 parts fresh tanner's bark.....	115	
1000 parts putrefied tanner's bark.....	145	
1000 parts refuse marine salt	49½	
1000 parts soot	36	
1000 parts burnt clay	29	
1000 parts coal ashes	14	
1000 parts of lime	11	
1000 parts gypsum	9	
1000 parts chalk	4	

The observations and train of thought which led to the examination of the moisture in the Rothamsted grass land are described by Messrs. Lawes and Gilbert (*Jour. Roy. Ag. Soc.*, vol. vii., p. 96, N.S.). It must be understood that the land has been many years in grass, and that the weight of hay produced under different modes of treatment, by the same land, is given by these gentlemen as follows :

The following are the amounts of hay obtained per acre in 1870, on each of the three plots already referred to, and also the average amounts over 15 years without manure, and with mineral manure and ammonia-salts, and over 13 years with mineral manure and nitrate of soda :

	HAY PER ACRE.		
	1870.	Average 15 (or 13) years. 1856-70.	Defi- ciency in 1870
	Cwts.	Cwts.	Cwts.
Without manure.....	5½	22½	17
Mineral manure and ammo- nia-salts	29½	52½	22½
Mineral manure and nitrate of soda.....	56½	57½	1½

Thus under the influence of the extraordinary drought of 1870, there was a variation in the amount of produce on closely adjoining plots, from only 5½ cwts. of hay without manure, to 29½ cwts. with mineral manure and ammonia-salts, and to 56½ cwts. with mineral manure and nitrate of soda. Indeed, without manure there was not only less produce than in any preceding year of the fifteen, but only about one-fourth the average amount. With mineral manure and ammonia-salts there was again considerably lower produce than in any other of the fifteen years with the same manure, and a deficiency of nearly 23 cwts. compared with the average. Notwithstanding this, we have the remarkable result of 2 tons 16 cwts. of hay produced by mineral manure and nitrate of soda, or only about 1½ cwt. less than the average amount by that manure : about 2½ tons more than without manure, and 1½ ton more than by the mixture of mineral manure and an amount of ammonia salts containing about the same quantity of nitrogen as the nitrate.

On the assumption that probably about 300 parts of water pass through the plants for one part of dry substance fixed, about 700 tons of water must have been exhaled by the herbage during the growth of the 56 cwts. of hay. But, reckoning an inch of rain to represent a fall of 101 tons per acre, the 2.79 inches which fell in 1870 during April, May, and June, the period of active vegetation, could only supply 282 tons of this, provided (which would not be the case) none of it was lost by drainage, and none of it passed off by evaporation otherwise than through the plants themselves. On the same assumptions, the amount which fell would be about 160 tons less than sufficient for the requirements of the crop grown by mineral manure and ammonia-salts, but more than three times as much as would be required by the growth of the unmanured produce.

So striking was the difference in the effect of the

drought on two plots side by side, the one manured with mineral manure and a given quantity of nitrogen in the form of ammonia-salts, and the other with the same mineral manure and the same quantity of nitrogen, but the latter in the form of nitrate of soda instead of ammonia-salts, that it was decided, on the removal of the crop, to determine the quantities of water existing in the soil of the three plots to a depth somewhat greater than the lowest to which roots could be traced ; and also to observe the difference in the development and distribution of the roots, if any, on the different plots. Accordingly, on July 25 and 26, 1870, samples of soil were taken from the three plots to the depth of 54 inches in each case, roots having been traced on one of them to within a few inches of that depth.

The plan of collecting and preparing samples of soil for analysis will be understood from the following description of the process in the present instance : A square yard, comprising a fair proportion of the species contributing to the bulk of the herbage, having been carefully selected on each plot, a case or frame, open at the top and bottom, made of strong sheet-iron, 6 inches square by 9 inches deep (but which may be of any desired size), was driven into the ground in the centre of the square, level with the surface. The enclosed soil was then dug out exactly to the depth of the case. The soil around the case, to the extent of the square yard selected, was then removed to the level of the bottom of it ; it was again driven down, and its contents carefully taken out ; and so on, the process was repeated, until the desired depth was attained. The determination of the water in the samples being the special object of the experiments in question, the exact weight of the soil was taken immediately on removal, so that any loss of moisture by evaporation during preservation, or preparation for analysis, might be duly taken account of. The whole was then broken up, the stones sifted out, separating first those which did not pass a 1-inch sieve, next a ½-inch, and finally a ¼-inch sieve being used. The mould, or soil, passing the ¼-inch sieve was weighed, a proportional part of it finely powdered for analysis and re-weighed. In the soils so prepared, the loss of moisture, at different temperatures, has been and the nitrogen and some other constituents will be determined.

The following table shows the per-centage of moisture, as determined by the loss when dried at 212 degrees Fahr., inclusive of that by evaporation during preparation for analysis, in the soil from each of the three plots of the experimental meadow-land, at each depth to which the samples were taken :

Moisture in the Soil from Plots of Permanent Meadow Land differently Manured. Samples collected July 25-6, 1870 : PER-CENTAGES OF MOISTURE. (Soils dried at 212° Fahr.)			
Depth of Sample.	Plot 3. Without Manure.	Plot 9. Mineral Manure and Ammonia- salts.	Plot 14. Mineral Manure and Nitrate of Soda.
First 9 inches ...	10.83	13.00	12.16
Second 9 inches ...	13.34	10.18	11.80
Third 9 inches ..	19.23	16.46	15.65
Fourth 9 inches ...	22.71	18.96	16.30
Fifth 9 inches ...	24.28	20.54	17.18
Sixth 9 inches ...	25.07	21.34	18.06
Mean.....	19.24	16.75	15.19

The results recorded in this table are of great interest and significance ; and they supply important data towards the explanation of the extraordinary difference in the amount of produce obtained on

the different plots. It should be premised, however, that between the removal of the crops and the date of sampling the soils, in all nearly an inch of rain had fallen, perhaps affecting somewhat the actual percentages, but the relative amounts probably but little.

The first point to remark is, that the first 9 inches of soil of both the heavily manured, and more or less heavily cropped, plots contained a higher percentage of moisture than that of the unmanured and lightly cropped plot. But from that point downwards to a depth of 54 inches, and doubtless further still, the manured and more heavily cropped soils contained much less moisture than the unmanured; and the most heavily cropped soil, that of Plot 14, manured with mineral manure and nitrate of soda, contained considerably less than that of Plot 9, manured with mineral manure and ammonia-salts. And whilst at a depth of from 45 to 54 inches the unmanured soil contained 25 per cent. of moisture, that receiving mineral manure and ammonia-salts contained only 21.34 per cent.; and that receiving mineral manure and nitrate of soda only 18 per cent., or scarcely $\frac{3}{4}$ ths as much as the unmanured soil at the same depth. To sum up the results, there is an average amount of moisture down to the depth of 54 inches, of 19 $\frac{1}{4}$ per cent. on the plot without manure, of only 16 $\frac{1}{2}$ per cent. on the plot manured with mineral manure and ammonia-salts, and of scarcely 15 $\frac{1}{4}$ per cent. on that manured with mineral manure and nitrate of soda, or only about 4-5ths as much on the latter as on the unmanured plot.

The subsoil of this meadow land is a reddish yellow clay, interspersed with grey veins, and the specific gravity increases by about one-half from the surface down to the greatest depth taken. For our present purpose it will be a sufficiently near approximation to the truth to assume that down to the depth of 54 inches, the soil (exclusive of stones) weighed an average of 1,000,000 lbs. per acre for every 3 inches of depth, or an aggregate of 18,000,000 lbs. per acre to the depth of 54 inches. Adopting this estimate, and the percentages of moisture given, it results that down to the depth of 54 inches, or 4 feet 6 inches, the unmanured soil retained 1,546, the soil of Plot 9 1,346, and that of Plot 14 1,221 tons of water. That is to say, to the depth of 4 feet 6 inches, the soil of Plot 9, manured with mineral manure and ammonia-salts, contained 200 tons, and that of Plot 14, manured with mineral manure and nitrate of soda, 325 tons less water per acre than that of the unmanured soil to the same depth; whilst, from the great difference in the percentage of the lowest depths taken in the three cases, there can be no doubt that the difference extended considerably deeper still.

As, then, we are aware that all the moisture of our soils is derived, either in the sensible or the insensible state,

from the atmosphere, and that the more the soil attracts of those aqueous matter the more fertile is the land, the next question which suggests itself is, whether by artificial additions to the soil, that attractive power may be profitably increased. In addition to the experiments I have given, many agricultural operations lead to the conclusion that more may be done in this way than we have yet accomplished. The expensive clayings and marlings of sandy soils, render those dressed soils far more attractive and more retentive of moisture. Farmyard dung, the most valuable of all generally employed manures, is the fertilizer which attracts the largest amount of the aqueous portion of the atmosphere. Sea-water, wherever it has moistened a soil, renders it damp; the soils within reach of the sea spray are often more fertile than similar soils farther inland. Soils which are salted are kept from freezing, and even the plants growing on salted land are preserved to a great extent from injury by frost. I have repeatedly noticed this in the case of cabbage-beds, which had been top-dressed with salt. Now the reason why the common salt of commerce (especially the Bay or other varieties obtained from sea-water) deliquesces, or becomes moist, is that it is not pure, but contains a certain amount of the chlorides of lime and magnesia, both very deliquescent salts. And as this is the case, the suggestion occurs that these chlorides might be usefully employed to add to the moisture of our soils. One of these has, indeed, been successfully applied to some of our light soils, but not with the direct object of increasing their moisture-attracting power. I allude to the chloride or muriate of lime, which is produced when two parts of lime and one part of common salt are well mixed together in the dry state, and allowed to remain under cover for two or three months. A gradual decomposition then takes place, and muriate of lime is produced in considerable proportions. Here, then, we have a cheaply-produced salt, possessing a powerful attraction for the moisture of the atmosphere, which has never yet been employed with the primary object (as by repeated small top-dressings) of rendering its moisture-loving properties useful. Again, there is another salt of lime, the nitrate, which also possesses great deliquescent properties. This nitrate is found in small proportions in old lime-plaster and some natural waters, and in far more considerable proportions, in many soils of oriental countries. If this salt could be extracted from such soils, and imported into this country in the dry state, there is every reason to conclude, that not only from its deliquescent, but from its nitrogenous properties, it would be a valuable fertilizer. It is generally found in the artificial and other soils, from whence saltpetre is procured, and it gives a deliquescent tendency to some of the impure varieties of saltpetre found in commerce.

PARTY POLITICS AND FARMERS' FRIENDS.

It is often said that the hard lines of merely political Party are fast fading out; that the days are gone when it became a man to shout himself hoarse because he was *blue*, or to drink himself blind in evidence of his sympathy with *yellow*. People, on the contrary, have shown more inclination to create certain "schools" of their own, and to give their support proportionately to any man who promised the fairest for their particular interest. The development of any such feeling as this has been especially noticeable of late amongst agricul-

turists. At the Clubs, Chambers, and other Societies it signifies little or nothing whether the chairman or the spokesman be a Conservative or a Liberal, the point being the rather to prove him by his sayings and doings in relation to that common cause which has brought them together. The establishment of such a school would seem to have been inaugurated by the return of Mr. Sewell Read to Parliament, where he was known from the outset as The Farmer Member. He came up with a special call to repeal the Malt-Tax, and beyond

this and the fact of the honourable gentleman being a tenant-farmer, we really believe that the political world scarcely knew if he were a Whig or a Tory.

Nothing as it seems to us could have been more auspicious or more wholesome than the recognition of the principle here involved. It had long been the common talk that the farmers had virtually no representatives in Parliament, and now they were going to represent themselves. However, a somewhat sudden check has been given to any such aspirations, for Mr. Sewell Read has declared in so many words, that if ever a Liberal be returned for the same Division which he sits for, and so "stultifies his vote, much as he values the great privilege of representing them in Parliament, nothing should induce him at the next general election to stand for the county of Norfolk." Fortunately the Liberal was not returned, so that Mr. Read, it is to be hoped, may still continue to represent the farmers of England and the Conservatives of South Norfolk. But it may be really worth while to look a little closer into this matter, and to seek the reason for the very remarkable determination here arrived at. As a FARMER'S FRIEND the Liberal Candidate promised quite as fairly as the Conservative. Nay! of the two, Mr. Gurdon was a deal more explicit than Sir Robert Buxton. As touching the two great agricultural questions put before them, it was only under manifest pressure that Sir Robert could be induced to declare himself a Malt-tax repealer, while as to the game abuse Sir Robert says: "I consider that the whole question rests primarily upon the principle of free contract between landlord and tenant. It may be desirable to have legislation, but in any legislation this principle must be recognised. I consider that the landlord has a perfect right to offer his land to the tenant on any terms he chooses, and, on the other hand, the tenant has a perfect right to accept or reject them as he pleases." Whereas Mr. Gurdon said, at the nomination, that he "had spoken out honestly and straightforwardly on all the principal subjects of the day; or, at any rate, he had endeavoured to do so. He had spoken out on the subject of the Malt-tax, and he asked farmers who were earnestly in favour of the repeal of the Malt-tax to support one who was equally earnest. He had spoken out on the subject of the Game-laws, and he asked those farmers who were earnest on that subject to support one who was also earnest." It is not quite so clear how, so far, Mr. Sewell Read would be stultified by Mr. Gurdon, as, indeed, of the two he would certainly seem to be in more danger from Sir Robert Buxton. The new member says that the game is entirely a question of agreement between landlord and tenant, and the old member says it is nothing of the kind. At the meeting of the Chamber of Agriculture, in only the previous week, Mr. Sewell Read declared emphatically that "a man cannot do as he likes with his own; I have said before, and I say again that he cannot. The law of England is, I believe, founded on the good old maxim of the Roman law, 'So use your own rights as not to injure those of another.' As long as a man keeps his land in his own hands he can do what he likes with it; but when he wishes to let it to another, the Legislature may surely step in and say what he may do and what he shall not do. I say it is a mere bugbear to talk of the dreadful consequences which must result from interference of contract between landlord and tenant with regard to game." Surely the two honourable members for South Norfolk will stultify each other very much if they talk one after the other in the House of Commons as they have done during the last few days—the one in Salisbury-square, and the other in Norwich Shire-hall.

We are really rejoiced, however, to see that Mr. Sewell Read is not, after all, so much of a mere

Party man as his threat of resignation would imply. At Wymondham, indeed, he announced that he was "not such a very strong Party man. Why, I have only given six votes this year in the House, and three of them have been against my party! Therefore, I say I am not a very strong Party man; and I am quite sure that in any future election the interests of the tenant-farmers of Norfolk will be regarded, whether the candidate happen to be a Liberal or whether he happen to be a Tory." Unquestionably, from what we have read and heard of the election just over, we quite agree with Mr. Read that the interests of the tenant-farmers looked to be as much regarded by the one candidate as the other. But why then this threat of resignation? If Mr. Gurdon would vote with Mr. Read over the Malt Tax, the Game Evil, and Local Taxation, and if on other questions Mr. Read himself, as he has shown us, votes as often with the Liberal Party as against it, where would be the stultification? By his own acts during this Session Mr. Read cannot be a Party man, or if he be he stultifies himself quite as much as it would be possible for Mr. Gurdon to do, as he gives half his support to his own side, and half to the other! In fact, by his own admission, Mr. Read now occupies a strangely anomalous position in public. In the House of Commons he is by no means a strong Party man, whilst out of Parliament he is amongst the most violent of Party men. The threat of a member to resign his seat unless a candidate from his own Party be returned to sit with him is, we believe, an almost altogether unprecedented step in the annals of electioneering.

A daily paper, *apropos* of this same threat, asks whether the tenant-farmers will vote for themselves or their landlords? And really this seems to be a very pertinent question to put. Mr. Sewell Read said, down in Norfolk, "They are going to divide the rates between the landlord and tenant. Will that benefit anybody? I was asked the question in the House of Commons, and I said it would not benefit the farmers. I contend that the farmers have borne the increase of taxation during the term of their tenancy, and of course at the expiration of the tenancy a new agreement takes place, and if the landlord has to pay half the rates, why of course the tenant will have to pay more rent." Clearly, the proposal is not intended to apply to existing leases; but mark the tender care evinced here for the landlord. Mr. Read says that the farmers have borne the increase of taxation during the term of tenancy, as it is very manifest that in common justice they should not have done so; for, as he clearly shows, the more taxes the less rent. The great hardship would, of course, fall upon the man who, under a lease, would have to bear the increase until this had run out; whereas the yearly tenant would say at once "I can't stand this, you must consider it in the rent," and an allowance would be made accordingly. It is hard to see how the division of such a burden would not benefit the man who hitherto, up to the next agreement, has had to carry all the extra weight. Again, to put the Party question quite home in gameridden Norfolk: Who are the great offenders in this way, the Conservatives or the Liberals? While some good staunch Conservatives have their farms thrown on their hands how many nobles or squires deal as fairly with their tenants about game as the Lord Lieutenant of the county, who is unfortunately of the wrong Party? But will the other Party follow his example, if, as Mr. Codlin says, they, mind you, are the "true friends?"

There can be now no greater mistake in urging the claims of the tenant farmers than to attempt to identify these with the politics of any particular Party. Mr. Read and Mr. Pell sit on one side of the House and Mr. M'Combie

and Mr. James Howard on the other. Are we to understand that this virtually comes to stultifying the labours of these honourable gentlemen, that is so far as the farmers are interested? Nay, to carry the thing quite home again, and to carry out his principle of action, Mr. Sewell Read would decline to sit for his Division, if Mr. Robert Leeds were returned as his colleague!

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—You concluded your leading article on Monday thus: "Nay, to carry the thing quite home again, and to carry out his principle of action, Mr. Sewell Read would decline to sit for his division, if Mr. Robert Leeds were returned as his colleague!" Much as I value the friendship of Mr. Robert Leeds, and greatly as I should enjoy his bright, cheery companionship, I should say of Mr. Leeds just what I said of Mr. Gurdon, if he were trying to deprive me of a *Conservative* colleague who I knew would work and vote for the agricultural interest. There is, moreover, this difference between Mr. Gurdon and my brother farmer: Mr. Gurdon has fairly stated his opinions on the Game-laws, Malt-tax, and Local Taxation. I have no idea what are my friend's views on these matters, but I do know that long before my public life began, Mr. Leeds was a strong and stirring Liberal.

It is utter nonsense to suppose that a farmer must go to the House of Commons "to create for himself a certain school" utterly devoid of political opinions. Why, 19 out of 20 votes he would be called upon to give would have nothing to do with agriculture, or even rural affairs! At my first election I avowed myself an Independent Conservative, and in 1868, of the 3,097 electors who voted for me, I don't think there were a dozen, certainly not more than a score Liberals who supported me. I have quite as much right to be a Conservative as Mr. James Howard and Mr. M'Combie have to be thorough Radicals, and I am sure that neither of those gentlemen wish for a Tory colleague, and would do all they could to keep him out. Nor does such a desire to help their party make them any the less true farmers' friends.

You did not quote the chief sentence from my speech at Wymondham, I therefore give it here: "If I can serve the party and at the same time serve the farmers, I don't mind sacrificing my time, my money, my strength in the cause (renewed cheers); but if, on the other hand, you are going to return to the old compromise that we had before 1865, and have one and one, then I say a country gentleman would represent the Conservative party better than I should, because I am not such a very strong party man." Then I added what you have mentioned, and concluded thus: "I am quite sure that at any future election the interests of the tenant farmers of Norfolk will be regarded, whether the candidate happens to be a Liberal or whether he happens to be a Tory (Hear, hear)."

There is a great difference between "threatening to resign my seat," which I did not do, and stating my intention of not putting my friends to the trouble and expense of a contest at the next general election by offering myself again, should certain eventualities happen. I entered Parliament against my inclination, and only to fill a temporary gap. Some little good, I believe, has been accomplished. I would ask any one to compare the addresses of would-be country members *now* with those issued previously to 1865. I believe the stir then made in Norfolk had much to do with this beneficial result, and shows that opposing candidates may be of totally different politics, and yet both of them good friends of the farmer. It is quite

right that *agricultural politics should belong to no party*, but it is equally true that agricultural members should sit on both sides of the House and not foolishly attempt to create a cave of their own.

I am quite aware that neither Sir Robert Burton nor Mr. Gurdon, nor indeed any of the agricultural press in England, take the advanced view of Game-law Reform that I do. Dropping hares and rabbits out the game list, *without preventing their exclusive reservation by the landlord*, would set free every man's hand against these vermin, save the tenant's, and, without a stricter law of trespass, would expose occupiers of land to many depredations. Certainly in Norfolk as elsewhere the over-preservation of ground game is not confined to any party. The slaughter of 1,200 hares at Gunton on the last three days of the old year, will at once answer your insinuation that in this county the chief offenders are Conservative landlords.

When my constituents wish to dispense with my poor services, I shall be quite willing to receive their notice to quit, but I also reserve to myself the right of telling them that, under certain conditions, I believe by continuing to be their member will no longer conduce to their interest. I know that I am sacrificing much domestic comfort. I am told that I am undermining my health, and I am certain that I have no prospect of any personal or pecuniary advantage by remaining in Parliament, and I shall be only too glad to retire into private life whenever my friends and my party wish it. I may then hope to escape the satire of the *Mark Lane*, a penalty all public agriculturists, especially those of the Conservative party, have to undergo.

I am, Sir, your obedient servant,

CLARE SEWELL READ.

Honington, April 22nd.

P.S.—You had an extract from *The Economist* the other week, in which it was suggested that if Mr. Leeds were in Parliament he would move for the abolition of the law of distress. I don't fancy he would; but it's no more strange than true that this subject has never been considered by the tenant-farmers of England to be one of their grievances. The same article then went on to say that a "Tory squire would vote just as I did." I uphold Mr. Loch's Game Bill, I go with opponents of the Police Poaching Bill, I led the attack against the Gun Tax, and spoke and voted against Mr. Disraeli's last Budget, because, having a small surplus, he did not devote it to reducing the Malt-tax. In these, and very many other instances which I could name, I have had the misfortune to have the chief of the Tory squires, as well as all the Whig county-members, against me.

[As a Party man Mr. Sewell Read would decline to sit, or, if he so prefer to put it, would decline to contest a seat were there a probability of Mr. Leeds, or Mr. M'Combie, or Mr. Jas. Howard being returned with him. Take the case the other way; would Mr. Leeds, Mr. M'Combie, or Mr. Jas. Howard decline to sit, or contest a seat, were there a probability of Mr. Sewell Read being also returned for the same place? We think not; and here of course is the distinction we would draw between the Politics of Party and the Politics of Agriculture. We are sorry to hear, more particularly from Mr. Read, that "it is utter nonsense to suppose that a farmer must go to the House of Commons 'to create for himself a certain school' utterly devoid of political opinions;" for what in the world then were the Chambers of Agriculture instituted? We are quite willing, however, to admit that we like the tone of Mr. Read's letter far better than we do his recent electioneering speeches. Indeed, had he talked in Norfolk as he writes to us he would have "escaped the satire of the *Mark Lane*."—EDITOR *M.L.E.*]

THE CONDITION OF THE AGRICULTURAL LABOURER.

There are few more popular topics than the condition of the agricultural labourer. This is a question which everybody is ready to take up—the politician, the philanthropist, the excursionist, the country squire, and the tenant-farmer. And now the labourer has fairly taken up the matter himself. There was a very suggestive meeting the other day at Leintwardine, a village on the borders of Herefordshire and Shropshire. At the first glance what will especially strike the reader will be the orderly manner in which the proceedings were conducted. The men did not make use of threatening language, they did not pull down any neighbouring gentleman's park palings, and they did not organize any imposing procession. They simply met, just as their employers might have done, in the large room at *The Lion*, to consider their case, and to see what could be done. The assemblage was especially fortunate in the choice of a chairman, one of their own order, who, as it would appear, has gradually raised himself from this position, but whose sympathies are still all with the working man. If anything, Mr. Strange spoke only too well, as there is something of the more practised orator in the manner in which he sustained the opening address. As, however, his audience on the strength of their own individual cases went to support all he advanced, we shall be justified in accepting the chairman as the fitting mouth-piece of the meeting. The labourer then, on his own showing, requires a better house, a Tenant-Right in his occupation, and the letting to him of his bit of garden ground on fairer terms. Further, his wages must be materially increased, a system of small farms should be established, and a local Emigration Society has been started.

It may be well to look a little closer into the character of this demonstration, particularly as some of the alterations suggested do not threaten to be altogether so impracticable. If a labourer maintain that he should receive fifteen shillings a week instead of ten, though he be not prepared to say the employer can meet this advance until the landlord has let the farmer his holding on easier terms, there are certain ramifications which do not promise any very early adjustment. If, however, a man assert that he should get a better cottage and on fairer conditions if he held direct from the owner than through the occupier of the land, the claim might reasonably ask for some early consideration. And this is precisely the argument of the Leintwardine labourer: "We have heard much of Tenant-Right lately, and I for one think it a very hard case that a farmer after expending a lot of money on his farm should have notice to quit; or that the landlord should have power to do so without remunerating him. Now what applies to the farmer exactly applies to the labourer. Is it not, I ask you, equally wrong that a labourer should be turned out of his cottage at a week or a month's notice, or that the farmers should have the power of doing so?" And, again, "Where the poor labourer has worked early and late to cultivate and plant his garden he gets his notice to leave, sometimes when he can just see the tops of his young potatoes pushing their way through the soil. I leave you to judge what the man's feelings must be as he goes in search of another master and another garden to cultivate. This is not an imaginary thing, as most persons present have heard of such a case (A voice: 'We have'). I have heard objectors say that if the labourer rents his cottage of the landlord he would

have to pay a higher rent. I am sure they will pardon me when I say that it is very unlikely. In fact, I know a landlord who lets all his cottages at low rents, and pays all the payments; and the late Lord Clarendon (honoured be his memory) did so. If landlords had the real state of things brought before their notice they would feel for the position of the labourer, and help him when they see him trying to help himself."

The labourer and the employer are no doubt something at issue here. There is no sounder principle than that a man should live as near as possible to his work, and that his energies should not be expended in travelling to and fro. If, then, he be housed on the farm, and he and the master cannot agree, his remaining there could scarcely be a satisfactory position for either one or the other, letting alone the fact that he would have to seek another place at a comparative distance. Still, having to quit at a week or two's notice sounds somewhat harshly, while the labourer declares further that he would hold at a lower rent and with the chance of being better done by in the way of accommodation, were no middleman recognised. And this is associated with a yet more serious charge. Everybody, the clergy, the proprietors, the agents, and the farmers, will admit the advantage to the working man of a bit of garden-ground. If he cannot command this attached to his cottage let it be provided by the allotment system, and at such a rate as will just be above any actual loss or the unwholesome plan of giving it gratis. But according to the Leintwardine meeting, so far from getting his piece on favourable terms, "the farmer don't pay near the rent for his land as I pay at the rate for my bit. I'm paying for my hut of a house, and then for a bit of tater ground at the rate of £68 10s. an acre, and if my house and the adjoining one was sold they would not fetch £5." At this there were loud cries of *shame*, and then Thomas Green went on to say how he "was mowing himself not far from that place for a gentleman-farmer who was always considered a decent sort of man. He knew that one meadow he mowed the man called it fifteen acres when it was sixteen. He heard of another case that was not far from Wigmore. The labourer mowed 50 acres, and out of that the farmer kept the money for seven acres. Such meanness as that caused the labourer to work very hard to keep up. If a man got 2s. or 2s. 6d. a day, the farmer thought that something enormous, and would not set the grass again at the same price."

We have no great faith in a man getting his wages raised from ten to fifteen shillings a week on the showing that the landlord will allow this as set-off in the rent paid by the farmer; we do not believe that parcelling six-hundred acre farms into small holdings of thirty-three acres each would be of any real good to the labourer, but rather the reverse; and we have reason to think that some of the emigration schemes and prospects are little less than swindles, or, at an rate, a working man should be very careful before he invests his savings in this way. On the other hand, such charges as that a man may be turned out of his home with his crops half-grown with out his right to these being allowed, of his being fearfully over-charged in his rent, and frequently under-paid for his piece-work, are grievances which could and should be looked into. If we remember aright, there is not only a Leintwardine Emigration Society, but also a Leintwardine Agricultural Society, a meeting of the members of

which should be forthwith called. So far we have only heard one side of the case, although it is very necessary for the credit of the employers themselves that this statement should be answered or explained. The chief abuse of the Herefordshire custom was, as we heard recently, that the labourers were paid too much in kind, that instead of hard cash they took so much a-day out in cider, alike to the wrong of themselves and their families. Noticeably enough this point does not appear to have been touched on by the Leintwardine meeting, while one of the complaints so strongly urged here would seem to be exceptional. Mr. Nisbet Hamilton indeed, when before the Royal Commissioners, had "no hesitation in saying that the system which generally prevails in England of the labourer being the direct tenant of the landlord, in so far as the social condition of the labourer is concerned, is preferable to that which exists in Scotland; but it is in vain to try to force such a system on the tenant-farmers in Scotland, because it would be impossible to let any farm unless you gave the tenant-farmer an absolute control over a certain number of cottagers." Thus, giving the control of the cottages over to the farmer, is distinguished as the Scotch as against the English system; although, no question, there has been a movement of late on this side the Border to promote the letting of the labourers' dwellings with the land. In Scotland the advantage of this would not promise to be altogether so clear, as in the April number of *Blackwood*, in an article, on the condition of the Scotch agricultural labourer, it is admitted, rather reluctantly, that "some difference of opinion exists as to whether it is desirable that a cottar should hold his cottage direct from the farmer or from the landlord"; and this is pointed by an example: "The Duke of Buccleuch, who has devoted large sums of money to the building and improvement of cottages on his vast estates, we believe adopts the practice of making the cottar as independent of his employer as possible for his house accommodation, believing that it places the labourer in a more independent position in reference to the farmer than when he is liable to be turned out of his holding in a fit of caprice or ill-humour at a moment's notice. As a consequence, the cottages on his Grace's property are, as a rule, held by their occupants direct from the landlord." And here the Leintwardine labourer has certainly something further to go on.

MEETING OF AGRICULTURAL LABOURERS.

A meeting has been held at the Lion Inn, Leintwardine, when the large room was crowded to excess, as, in fact, many of the labourers could not obtain admittance. The audience was comprised entirely of agricultural labourers. Mr. Strange, of Adforton, was voted into the chair.

The CHAIRMAN said: So I am here to-night to carry out as well as I can my part of the programme. I suppose that most of you know the purpose of our gathering. It is to discuss—I hope dispassionately and temperately—the position of the labourer. Let us by all means steer clear of all bitterness, because that will only block up the pathway we want to clear. If you talk calmly and speak the words of truth and soberness, all classes will be the more disposed to listen to us. You may have wrongs, and may feel your position deeply; but let reason dethrone passion. Speak freely, but with moderation, and this night's meeting will be productive of good. We are met to-night to inaugurate, I hope, a series of meetings, to discuss what may be termed labourers' wrongs, but not wishing to use any phrase which may offend outside, we will say, to consider the position of the labourer, and how he may rise. I have heard it said that this great country of ours, with its noble institutions and famous associations, may be likened unto a pyramid. The bottom, or foundation, the labouring

classes; the centre the middle classes; and the top the aristocracy, with the Queen crowning the apex. It may be seen at a glance which is the most important part of such a building, because if anything is the matter with the foundation the whole building is in danger. Many a beautiful building has fallen through the weakness of its foundations, so many a fine kingdom has fallen because the lower classes were neglected and oppressed. For they have at length discovered their power, and, arising with the energy of giants, have destroyed their oppressors, their countries, and themselves. But seeing it is with the foundation we have to do to-night, we will not talk either about the apex or the centre, for, should these chance to fall, a goodly structure could be raised if the foundation be only secure.

Build to-day, then, strong and sure,
With a firm and ample base,
And ascending and secure,
Shall to-morrow find its place.

It has been a long struggle for the labourer to attain the position he has, low though it be. It is not long ago, reckoning the age of nations, when the English labourer was really a slave. And yet people talk of the good old times! You may depend there never yet was a good time for the labourer. If these "good times" ever really had an existence, they either dropped their mantles of fatness on the aristocracy or the middle classes. They did not reach so far down as the labourer. No. None of the crumbs of the good old times fell to the share of the poor Lazaruses. We stand looking at the dawn of great transition. Though Europe has been teeming with bloodshed, and the rifle, cannon, and sword have been doing their deadly work, and the swell of war has been ringing in our ears, there is a yet louder swell than the swell of war comes rolling along like a great anti-chorus, the cry of an universal brotherhood amongst the nations. If this be the case we must not be in the rear ranks. England should be in the van! But in order to be so we must rise higher and higher in the social scale. In stating our wants we are not going to declaim against any class—for the very best of reasons we want the assistance of all. In the first place, what is wanted? I will just enumerate a few things and throw out a few suggestions for your consideration. The first I shall name is the improvement of the labourer's cottages. Let us take at hazard two out of every three of the cottages and we shall too often find them a disgrace to civilised England. One room up and one room down. In the room on the ground floor has to be done washing, cooking, food boiled for the pig, with the many other things attendant to the care and wants of a family. Should the family be large, I will leave to you to judge what comfort a man can have after a hard day's toil to come to this home of his with an atmosphere reeking with the steam of soap-suds, and wet clothes hanging from the roof and standing about the floor. But if we come to the room upstairs, common decency is offended. One room in which father, mother, and—too often—grown-up sons and daughters sleep in the same apartment. Sometimes, indeed, there is an apology for a partition? Think of these things, and the inferences which may be drawn, and see if there is not really room for amendment. If you want any more information on this head, get the Commissioners' report for South Salop, and you will find plenty of evidence. I myself, in visiting the sick, have seen this, and you know it from your own experience. Go through a well-ordered farm, and you will see better buildings provided, and more comforts provided, for the creatures of instinct than the creatures of reason! Then the censurers of the labourer will declaim against his immorality, but if the sons and daughters of those who are in the habit of censuring were placed in a similar position I do not think we should have a higher state of morals. This remark, bear in mind, is not made to excuse immorality, for I hold that immorality is a curse, and saps the life of a nation. Secondly, the labourer should have the privilege of renting his cottage of the landlord, or have a twelve-months' taking from Lady-day, with a month's notice to quit. We have heard much of Tenant-Right lately, and I for one think it a very hard case that a farmer after expending a lot of money on his farm should have notice to quit; or that the landlord should have power to do so without remunerating him. Now what applies to the farmer exactly applies to the labourer. Is it not, I ask you, equally

wrong that a labourer should be turned out of his cottage at a week or a month's notice, or that the farmers should have the power of doing so? There are, I know, many honourable men who would scorn to do so. But in order to preserve them from temptation it should be put out of their power. A farmer when he does get notice has generally something left. He does not, as a rule, lay it all out in unexhausted improvements. He can start again in some other farm if he can get one. But where the poor labourer has worked early and late to cultivate and plant his garden he gets his notice to leave, sometimes when he can just see the tops of his young potatoes pushing their way through the soil. I leave you to judge what the man's feelings must be as he goes in search of another master and another garden to cultivate. This is not an imaginary thing, as most persons present have heard of such a case (A voice: "We have"). I have heard objectors say that if the labourer rents his cottage off the landlord he would have to pay a higher rent. I am sure they will pardon me when I say that it is very unlikely. In fact, I know a landlord who lets all his cottages at low rents, and pays all the payments; and the late Lord Clarendon (honoured be his memory) did so. If landlords had the real state of things brought before their notice they would feel for the position of the labourer, and help him when they see him trying to help himself. The third point is, that their wages are not enough; they should be 15s. per week. Many would say this is not the time to agitate this subject; but when was there a right time for this question? or when is there likely to be? If it was left alone, I do not think it would be until the New Zealander stands on London Bridge viewing the ruins of London—that is if wages were required then. Now, we maintain that this is just the right time, for are not our brethren the farmers trying to get reform? We say "Yes," and we will try to help them to get it, because what they are trying for and what we are trying for is part and parcel of the same burden—only they forgot our part of it. However, we are bringing it to daylight, and are going to assist them to carry it. Perhaps we may differ in our mode of operation. Whilst they seek, and perhaps need, an Act of Parliament, we shall adopt Mr. Smythies' idea, that he launched elsewhere, viz., moral suasion. Acts of Parliament will not touch or affect us. Let us go to the landlord together, farmer and labourer. Then, if the farmer cannot really pay 15s. per week (and I am not prepared to say whether he can or no), let him show the landlord that he cannot do so, and I am persuaded that the landlord would let the farmer have his taking on easier terms, especially when he sees that the labourer is to be benefited; for I have yet to learn that the landlord would withhold his help more from the labourer than the farmer. If the farmer cannot pay the wages, what is one great reason? Why, because he takes the farm very often on the competition principle, and perhaps gives more than he should do. And is the labourer, I ask, to suffer because the farmer has been imprudent? And what is 15s. per week after all? Just think of the sum in your own minds, and after paying for rent, bread, coals, and the other necessities of life, how much will be left for clothing, &c. There is a class of people who constantly inveigh against the wages which a labourer receives. Now what I should wish that class is that for one twelve months they receive the labourer's wages, do his work, and eat the same food, and I am persuaded it would work a radical change in their minds. Looking around and learning what some get it almost makes me shudder, for how some have passed through the trying ordeal of the past winter is more than I can tell. The poor creatures cannot live, they only exist, and God only knows what kind of an existence it is. How they with their wives, and oftentimes large families, get on with 8s. or 9s. per week is to me a mystery. Fourthly, in looking at the position of the labourer, what chance has he to rise? Think of his condition. The longer he lives the lower he descends in the social scale, until looms up, and not in the far distance either, a name of horror to all Englishmen with an atom of independence, that pandemonium called the poor-house. That house where England's veteran labourers are too often treated worse than gaol birds. When the labourer first starts as a single young man he may just make a manage of it; but only let him have a family and it is an impossibility for him to save. Some few may be placed in exceptional circumstances, and contrive to lay by a few

pounds, but these exceptions are far too few, and to the great majority it is an impossibility to save. I have found, upon inquiry and observation, that when the singular event has happened of a labourer having been able to save a few pounds, and the still more singular event in these times of his being able to take a small farm, he has invariably risen. We have only to look around us and we can see many families occupying respectable positions who either began to rise in this way themselves or their immediate ancestors. In fact, I was speaking to a gentleman of this neighbourhood the other day on this question, and I asked him his opinion as to the present system of grouping all the small farms into large ones, and he replied, "Had it been as extensively done when I was a young man as it is now I should not be occupying my present position; for I was a farm servant, and saved £20 and took a small farm, and so got on." And now I can assure you he is very comfortably situated. If this be the case, why should the labourer have nothing but that bug-bear, the poor-house, to look forward to? Why, instead of parish pay in perspective, should he not have the chance to enter a little farm? Then receiving 15s. per week and knowing that, if saving and industrious, he would have an opportunity to rise, it would be a mighty stimulus to him, and the poor-house would not be half so much in requisition. Of course, then, it follows, that the poor-rates would not be so heavy. Professor Blackie, of Edinburgh—and he is no mean authority in matters of agriculture—proposes a very moderate scheme. It is, that every landlord should divide his estates into large, middle, and small size farms. He furthermore states that, for every man, woman, and child above two years of age, there are two acres of land. If this is the case, you will be inclined to ask with me why is there not a great deal more produce derived from the soil? Why is it that we are indebted to foreign countries for so much produce, causing so much money to go out of England, when at the same time so much more might be grown at home and your money spared? It seems to me that this is not only a question of produce, but a question for the many or the few, that is, shall the comfort and well being of the few be studied, or the comfort and well being of the many? I believe it is in accordance with the principles of truth and justice that the many be studied before the few. And that is the principle to which the laws of nations are tending, and it is the true principle of political economy. If this be so, why should the few large holders and the many labourers live in discomfort? Why should not some of the inequalities be removed? If the plurality of farms be iniquitous why should it be continued? If the grouping of farms be an evil why continue it. Let us for an instant look at a large farm, say five hundred acres. Now out of that take a farm of two hundred acres and one of one hundred, and two of fifty acres each; there you see would be four families living where only one now lives. Or suppose we took another of six hundred acres. Then out of that take one of three hundred acres, one of one hundred, two of fifty, and three of thirty-three acres, you will then have seven families where now but one lives. Suppose, for the sake of argument, you grant that the large holder employs as many labourers, how about the families that used to occupy the little farms before they were grouped. Three or four farms reduced to one means three or four houses' less work for the carpenter, the shoemaker, the blacksmith, the glazier, the saddler, in fact, for every trade. The landlord, I am persuaded, will not gain by grouping, because, although in small farms he may have to build more houses and buildings, yet he would not have to build such mansions as are called for in grouped farms; and besides, small farms bring much higher prices relatively than larger ones. Then, again, it is the opinion of many that far more is raised on a small farm than on a large one. Belgium seems to bear out this view, when we see what an enormous quantity of produce is raised there; and almost the whole of that country is divided into small farms. We quite agree with Mr. Rogers in his able paper the other day, when he says that it is to the interest of every class that the soil should be made as productive as possible. He said that if they could have Tenant-Right they could employ more labour. That seems to imply that more labour could be employed, does it not? Then again we heard the other day of that new genus of mushroom growth called the "young swell," who understood hunting better than farming, and racing better than either (laughter). A man no good to his workmen, tradesmen, or landlord. Now nothing

I am persuaded, would cause the extinction of that class more rapidly than what we propose, and the "young swell" would have to take refuge in the militia, volunteers, or horse marines (laughter). In the fifth place I believe that the labourer starts in life wrongly. When your boys and girls leave school—that is if they have had the opportunity of going to school—and you have, perhaps, tried to keep their morals as pure as you can, you want them to go into a situation. May comes round, and with it the mops and hiring fairs. Now for that advent into life. You all know, and are perhaps too familiar with what takes place at these carnivals of immorality, and the scenes with which they too frequently mingle in for the first time. I will leave you to judge whether it is a right or a good way to start your children in life. It seems, does this custom, to me a relict of past barbarianism or mildly existing form of a once existing serfdom. You will say it is easy to find fault with a system, but show us a better. I will just tell you a thought or two which has struck me on the subject. Let the overseer of every parish keep books, on which should be inscribed the names of all masters wanting servants and servants wanting places. Then if a master wanted a servant, or a servant a master, they could go to the overseer, and if not suited in one parish they could go to the next. Some objectors will say that this plan would increase the work of the parish. Granted; but if this is not parish work to see that all are provided with work, I should like to know what parish work is? Besides, there are always two overseers elected: one could do the work of the parish, the other attend to this. Many servants like their places and suit their employers very well, until May comes, and then one talks to the other about leaving, and so they make up their minds very often to leave without any other reason than that some one else is going to leave, and so they shall leave. Very often they leave and get worse places, besides putting their masters to great inconvenience. I believe that if these hiring fairs were abolished, it would, indirectly, cause a decrease in the poor-rates by lessening crime and immorality. Now, in the sixth place, the subject of local taxation is weighing not only very heavily on the farmer, but also on the labourer, especially on the latter. The proper thing, I think, to do in this matter is to act in conjunction with the Chamber of Agriculture in this neighbourhood, because your interests are identical. It certainly does not only seem wrong, but a burlesque on common sense, that the poor labourer—one remove from the parish—should be taxed so heavily. It seems to me that the poor-laws in their cumbrous machinery ought to be intitled "Patent manufacturing for the conversion of labourers into paupers." Now, from what I can learn, many here present are receiving a minimum scale of wages, and are charged at a maximum scale of taxation. Some, I learn, with houses valued at from two to three pounds' rental, have to pay 8s. 6d. to 9s. poor-rates, and others in a corresponding ratio. But may not this be the fault of the assessors, and could not this be made better by an appeal or energetic protest to the assessment committee? For where cottagers or small holders are paying too much, it stands to reason that somebody else must be paying too little. Who those persons are judge ye. As I stated to you just now, I know landlords who have begun a benevolent reform in this respect. I would that their numbers were increased, so that they might pay all the taxes of the cottager. I know that town rating is thrown in our faces to show how lightly we are taxed in comparison, but those in the town pay for things we have not the advantage of having. They have gas; we have to be content with candle. They have water brought to their homes; we have to fetch our own. They have paving; we have to plod through the mud. And many other things they have which we have not. In the face of these things it is not fair to compare town rates with country rates, or we must retaliate with comparing town wages with country wages. And now in the seventh place, I believe that the labourer can be benefited by emigration. But I am going a little further than a man did who was speaking of your meeting. In reference to the difficulties of the question he said "Oh, it is simple enough. The only thing for them to do is to emigrate," but he omitted to tell me at what bank you were to go to get a cheque cashed to pay your passage, or what he would subscribe towards it, or no doubt many of you would accept the gratuitous advice of this oracle. Now I want to lay this subject plainly before you to-night, for while the other objects I have mentioned may be a question of time,

this can be in a measure acted upon immediately. And I do hope this night's meeting is only the beginning of the end. Now I would suggest that you form a society; choose a president and secretary, and let every village, township, and hamlet be represented by one or more to act as a committee. Ask all the gentry, farmers, and tradesmen to subscribe, and let every working man who is a member of the society pay a penny a week to establish a fund to be called the emigration fund. The proceeds of the fund to go towards assisting every bona fide agricultural labourer who wished to emigrate. I would further suggest that the working of the society should be in this way. Let all those members who wish to emigrate give in their names to a committee. Then let the choice be decided by voting. Every man having a vote, and the man getting the largest number of votes recorded in his favour to have the privilege of going. Let the voting take place once a year, and at the best time for the intending emigrant. But some may say "we have no desire to emigrate, and why need we subscribe." But I say it will benefit you in this way. Every family emigrating means less competition: a labourer less to work, and consequently higher wages. Therefore I would urge upon you to begin at once. As I before stated, the way to obtain your object is not by inveighing any clam, but by reasoning with all. You do not want Parliamentary enactments, but manly treatment. For as we are told, the interests of each class bend together, and are indissolubly united. Why should not class co-operate with class, and treat each other with that manly courtesy which is the right of humanity? While I wish you all a fair day's wages, I wish for the farmers a fair day's work. It is a very hard case when a farmer cannot leave his men because they shirk their work. It is the duty of every honest labourer to expose a lazy man, because by his laziness he brings contempt on the whole class. And now, in bringing my remarks to a close, I say, work! Remember that God helps those who help themselves. There are mighty and mysterious forces abroad calling men upwards. There are unseen forces working beneath the moral world like the heavings of a gigantic land swell, intimating rapid changes. Then do not any longer be told that you are not alive to your condition. Do not longer remain apathetic, but with one heart and mind arise and think. Form a society, keep a clear mind and a cool brain. Do not act and then think, but think and then act. And that is the purpose I hope of this night's meeting. Do not stand listlessly by and say "Of what is the use?" or you may well depend it will be of no use. But combine, co-operate, and act, for there is a divine instinct in work. Do not be discouraged if you meet with opposition, for you have right on your side. (The Chairman sat down amidst much applause).

KINSEY then moved a resolution that, "We continue to agitate until the labourers' cottages are improved." There could be no question that the cottages of agricultural labourers were in a sad condition, and that they were not in a fit state to live in. If there was a class of men, and he did not speak grudgingly—who deserved to have comfortable cottages, it was the agricultural labourer, who truly earned his bread by the "sweat of his brow." Many of the cottages, even if they were in a good state of repair, were not proper places for a family to live in, as they had just heard from the worthy Chairman. He thought that if the labourer could rent his cottage direct from the landlord, independently of his employer, it would be far better for him, and the cottages would doubtless be put in a proper state of repair. He certainly hoped this would soon be the case, as the condition of the cottages at present was most deplorable.

FARMER, in seconding the motion, encouraged the idea of renting directly from the landlord.

The CHAIRMAN then put the motion to the meeting, and all hands were held up for it.

WEAVER, Adforton, proposed that they continue to agitate until the wages of the labourer be increased to 15s. per week, and that they take every possible step to improve the condition of the labourer. He thought the agricultural labourer did not earn enough to support himself and his family. He had a wife and two children at home to keep out of 11s. per week. He had £6 to pay for rent, £1 rates and taxes, and his Club money into the bargain. He had not twopence a day to live on, and laboured hard besides (cries of "Shameful!"). He thought that every labourer had now a chance—but he was too old himself to seize it—and that

was by emigration. Had he been younger he should have seized it.

A LABOURER: Mr. Chairman, I have heard it said myself in this neighbourhood within the last week or fortnight that a man went to his master—he was receiving, I think, 8s. per week, but I baint sure—and he says “Maister, I should be obliged to you if you would give me 2d. a day more pay?” His answer was, “If you don’t like it you may leave it.” This is all we can get, sir.

KINSEY said he thought it was only reasonable and right that they should have 15s. per week. When a man earned 8s. per week, and had a family of seven or eight to keep out of it, he would leave them to judge what kind of living it was. It was not living, it was only lingering. They had no chance of earning anything save what they earned by their daily avocations, and, as that was totally insufficient to keep them, he moved that they agitate for 15s. per week.

A VOICE: When that man that said about the 2d. a day spoke, he omitted one thing. To my own knowledge the man who asked for that 2d. worked thirteen hours a day this last winter.

A LABOURER in the crowd remarked that if a man worked two or three hours overtime he thought he ought to be paid for it. If a man worked on a railway overtime, he was paid for it, and why should not an agricultural labourer? He thought the agricultural labourer’s day was to work as long as he is wanted, and never be paid any overtime.

YAPP said: We have a man in our neighbourhood, a gentleman, Mr. Penn, who always pays his men a quarter if they work past their time.

TRULL then said: I want the company to judge. I am a man with four children, and it takes me—be as careful as I can—each week 12s. to support my wife and children, and, suppose I can only get 10s., how am I to live? I am paying for my hut of a house, and then for a bit of tater ground at the rate of £63 10s. an acre! You can judge what the house is like. If my house and the one adjoining was sold, they would not fetch £5 (cries of “Shame”). The farmer don’t pay near the rent for his land as I pay at the rate of for my bit. The farmers and gentlemen have been trying to better the thing, and saying as they’re a getting our burdens to be equal. If that is equal I a’done. Where is a man as would buy the land at that. There is generosity, there is. Well, gentlemen, what I gets over this ten shillin’ a week I am bound to get out of my bones or else I should not get it at all, and my family would have to starve. There would be no more hope; we could not live, it would be impossible. If that don’t want abolishing, I don’t know what do.

A LABOURER then rose up and said: I am a working man, Mr. Chairman; I have a wife and seven children, and four of them is able to go to school if I can find the money, and where the penny is to be found out of 9s. I can’t tell. That’s it, sir; 9s. a week for the wife and seven children. [A VOICE: “Well done, Sam; speak up!”]

Another LABOURER: They ought to be bound to give us wages enough to bring up our children properly.

Another LABOURER: I think that according to the price that butter and bread and other things is now that 15s. per week is not enough.

BEDDOES said: I don’t suppose that there is many in the company that have more than me to put up with. I have got seven besides myself to keep, which is eight, out of my wages, which is 9s. per week. I have four that is fit to go to school, but I can’t raise the money to send them. Nine shillings a week, and everything to find out of it!—clothes, shoes, firing, and everything. Now I have got notice to quit. My master and me dropped out about six weeks ago, and he ordered me out of the cottage, and I can’t find any one to go into, so my wife and children will have to turn out in the road starving. Where are we to go to? Where is the money to come from out of 9s. a week to carry my bit of goods about the country and pay expenses? and my wife is in bad health, and is never able to do a day’s work. No one can get a farthing besides myself, and I leave it to the company whether 9s. is sufficient to support my family, and whether it is a proper thing for me and my family to turn out into the street with that notice? (Hear, hear, and cries of “No! no!”)

A LABOURING MAN at the back of the room: I suppose that we have come here to-night to try and have the labourers’ rights, and how are we to start at it? We have put our

shoulders to the wheel, but owing to the roughness of the binding and the axletree causes such a friction that it won’t turn round. So how are we to turn him? We can’t do it by hoeing thirteen acres of turnips, and being paid for eleven. That’ll never start him; nor cutting twenty acres of grass, and being paid for eighteen. That’ll never do it (laughter and applause). We wants labourers’ rights, but I have only got a few words to say. We must get our masters to lower the rent and raise the wages, and that’ll loosen the binding a bit; so then we’ll put our shoulders to it, and make him go round till he sets the axletree a-fire (applause).

THOMAS GREEN had a word or two to say. He thought it was a very great evil for farmers to keep back part of the money labourers had earned in the measure. He was mowing himself not far from that place for a gentleman farmer who was always considered a decent sort of man. He knew that one meadow he mowed the man called it fifteen acres when it was sixteen. He heard of another case that was not far from Wigmore. The labourer mowed 50 acres, and out of that the farmer kept the money for seven acres. Such meanness as that caused the labourer to work very hard to keep up. If a man got 2s. or 2s. 6d. a day, the farmer thought that something enormous, and would not set the grass again at the same price. What was the reason? Simply because they co-operated and stuck together. What the labourer wanted was a long pull and a strong heave, and heave altogether; that would make the wheel go round, or set him on fire. [A Voice: We should stir him]. He could remember going to Knighton, and on going over the bridge, he saw a door, labelled “Farmers’ Club.” What did the farmers do in that club-room? why they co-operated and arranged together what they should give the labourers, and then they stuck together, and would not give a farthing more. Now he thought that the thing they wanted was a “labourers’ club,” and he thought the time would come to pass when they would have a labourers’ club-room, and the evils would be soon removed. Through competition, if one man would not take the work from a farmer another did, and so, through the men not sticking together, they lost ground gradually. If labourers would only stick to each other, and stick out, they might do much, as the farmer could not do without them.

A young labourer said he belonged to the class without a family. He knew a family of eight, living close by him, who lived on 8s. How they did was a mystery to him, for it was as much as he could do to live by himself on 10s. a week.

Another labourer said he believed he had seen as many strange faces as anyone in the room, and he believed that in this part they paid lower wages than in any other part one could go to. With regard to the cottages, he had passed one that day, which was so small he could put his arm down the “chimbley” from the outside (laughter). It put him in mind of Ireland where the pigs, cows, all lived together, for he believed that the pigstys sometimes opened right into the doors, and if that was a fit place to live in he had done. Another thing was, he thought, that every labourer that could do so should go to America, that was the best plan, and then leave the farmers to work for themselves.

The CHAIRMAN: There is one great necessary for emigration, where is the money to come from?

GREEN: I have often heard it said that English labourers have to work the hardest and get the least pay of any men (A voice: “And the least to eat!”—(laughter)).

A voice in the crowd: And I say that they can’t ha’ land to raise their taters at the same money as the farmers pay for theirs. The working man pays as much for his lugg as the farmer does for his acre.

The CHAIRMAN: Has anyone anything more to say before this subject closes?

A LABOURER: I have had ten, and I have got six alive to provide for. I believe that I’ve worked as hard as any man here, and I think that 15s. is quite little for any man as does his work. If a man works at a farmhouse he has to work from five o’clock in the morning until eleven at night. I think that ten hours to the day is quite sufficient for any man; and if he works any overtime he ought to be paid by the hour.

KENSEY asked what they thought was the hope of a poor man after he had laboured to support his family and himself and had spent every penny he had earned? What was his hope in declining years? Why, none at all. If he had

laboured to support his family he had not the wherewithal out of his wretched pay to put them to any trade, and so they must go through the same lingering course of existence that their father went through before them. It was the duty of every father to secure to his children some trade or some office in order that they might go through life in a better way than their father. But the great evil was that they had not got the means. And even if the father, by some good chance, or by the help of a friend, got his sons set up well in life, what prospect was there for himself in his declining years? Nothing but the cold arm of the parish (A voice: "No, lad, but it's a shame"). He thought that wanted abolishing. He thought that it was an injustice on the country, because, when their wages were kept down at such a low ebb, they could not possibly keep from the parish, and then the poor rates are a burden to the whole country (Voices: "Hear, hear;" and "Well done, old boy, go it;" "That's the way to put it at 'em"). When they came to reckon their money they found it quite impossible to live on the money they were paid. Now, if they were paid better wages they should be able to put by money into a club, and then they should be out of the reach of the parish. He thought that if the labouring men had the chance of putting by a few shillings they would delight to do so. The workhouse was but a poor place for a man to go to in his old age, after a life spent in industry and toil; but, there, what else could they do? How could they help it with the miserable wages they were paid?

OWEN, in a short speech, advised all those who had a little money to emigrate where they would have a scope for their industry.

The CHAIRMAN then put the motion to the meeting, and it was carried.

The CHAIRMAN said he did not think that they could do better than act in conjunction with the farmers in the matter of Local Taxation. But if any of them felt they were excessively rated, it would be better to put the matter before the assessment committee at Knighton.

A motion to this effect, having been proposed and seconded by labouring men, was carried unanimously.

The CHAIRMAN said he did not know what was the opinion of the meeting, but he thought the system of fairs and mops was a very great evil.

LAWRENCE said that as far as he knew the system was a very unsatisfactory one. It was fraught with many evils that must be quite familiar to them. Besides that, let them think of the indignity of the thing, when the farmers came and handled them and sold them like so many calves or pigs. Then again, there were so many temptations put in the way of the servants. A young man or woman was tempted to spend all their money, the hard saved money of the year, so that when they started again they had not a shilling left. And not only was it a question of £ s. d., but it tended to lower and debase agricultural labourers. Therefore he thought it ought to be abolished.

A WORKING-MAN, in seconding the motion, said that he had spent 50s. before now at a mop.

A motion was then put to the meeting, that the system of hiring at fairs and mops is a nuisance, and ought to be abolished. It was carried unanimously.

On the motion of the CHAIRMAN the meeting proceeded to form an Emigration Society on the principle named in his opening speech.

KINSEY proposed that Mr. Strange should be President of the Society. OWEN seconded it, and the proposition was carried with applause. By subsequent propositions Mr. Lawrence was appointed secretary, and Mr. Farmer treasurer; and Mr. Kinsey was deputed to choose a committee. It was then arranged that any man wishing to become a member of the Society should give his name to the secretary. The committee will hold a meeting and take the necessary steps for rendering the Society's operations available.

A vote of thanks was passed to the Chairman.

VAGRANCY.

At a meeting of the Banbury District Chamber of Agriculture, the Rev. J. A. Gould in the chair, in the absence of the president, the Rev. C. W. Holbech,

Mr. FINLAY DUN read the following paper: For six thousand years, or since the days of Cain, "fugitives and vagabonds" have roamed over the face of the earth. Whole races have adopted a nomadic Ishmaelite life, preferred tents to towns, a precarious to a fixed mode of livelihood, idle vagrancy to steady industry. As with races so with individuals. Even amongst the most civilised nations, and in our own times, we have our Bedouins and Gypsies—men, women, and whole families whose inborn love of a wandering life keeps them from settling in any fixed abode, who prefer, Esau-like, to have "their dwelling in the fatness of the earth and the dew of heaven from above." The most stringent measures have not sufficed to repress these troublesome wandering tendencies. From the days of Queen Elizabeth, numerous statutes have in this country been directed against vagrants and beggars. Imprisonment, whipping, and even death, were freely used as deterrents. Sir Matthew Hale mentions one Suffolk assize at which thirteen vagrant begging gypsies were condemned and executed. The civil law expelled all sturdy beggars from the city. The ancient statutes rightly regarded as "offenders against good order and blemishes in the Government of any kingdom," "such as wake in the night and sleep in the day, and haunt customable taverns and ale-houses, and routs about, and no man wot from whence they come, ne whither they go." The statute of 5 George IV., c. 83, amended by 1 & 2 Vic. c. 38, is directed against the three classes of idle and disorderly persons, rogues and vagabonds, and incorrigible rogues. With much comprehensiveness it includes strangers becoming chargeable on the parish, beggars, pedlars without licence or certificate; lodgers in barns, outhouses, tents, or in the open air, and unable to give a good account of themselves—a somewhat inquisitorial requisition, by the way, which might sometimes be with difficulty complied with by some who would

scarcely care to be classed with either rogues or vagabonds; fortune-tellers and those gaming or betting in the streets or public places; sellers and exhibitors of indecent books or pictures; every one absconding and leaving wife or children chargeable to the parish; every one having nefariously in possession housebreaking implements, or carrying offensive weapons with intent to commit any felonious act; every one found for unlawful purposes in any house, warehouse, garden, or enclosed place; every suspected or reputed thief frequenting any river, canal, dock, place of public resort, &c., with intent to commit felony. The statute thus comprehensively including in its threefold classification these various offenders directs that idle and disorderly persons shall have one month's imprisonment and hard labour; rogues and vagabonds shall have three months' imprisonment and hard labour; whilst incorrigible rogues may be committed to the next sessions and kept to hard labour in the interim, and may further be punished by the Sessions of the Peace with imprisonment and hard labour for one year, and with whipping, except in the case of females (Stephen's Commentaries on the Law of England, vol. iv., pp. 354-5). Although these wholesome statutes have been in existence for upwards of thirty years, they have been tardily and imperfectly taken advantage of. Mendicancy and vagabondage continued steadily to increase and extend. In 1848 the vagrant were estimated at 11,000; in 1858 they had doubled, their numbers being 22,559; in 1866 they were enumerated at 33,000; whilst in 1868 they probably were not less than 40,000. These figures are of course exclusive of our army of upwards of a million of paupers. During twenty years to 1868, the numbers of idle vagrants in England and Wales had thus increased fully three-fold. The enormity of this national evil may perhaps be more clearly apprehended when it is understood that at least nineteen out of every twenty tramps are professional mendicants, by cunning impudence and importunity imposing on the unwary and the charitable, nearly all are idle,

lazy, and averse to work, and, moreover, exert a contaminating influence, mentally, morally, and even physically, on many with whom they come into contact; often are they the carriers of contagious diseases: almost all are unscrupulous, dishonest, and ready to lay hands on whatever they can find. The natural history and habits of the vagrant are curious. He may be described a sort of hybrid, between the pauper and the criminal. Cradled in dirt, misery, and brawling, his bodily, mental, and moral qualities are early stunted and perverted to evil. The student of Darwin might trace in him the prowling rapacity of the wolf, the idleness of the sloth, the cunning of the fox, the trickiness of the monkey, with some of the unpleasant characters of the skunk. In winter his chief habitat is the towns, and during an inclement season he often reluctantly resigns his love of independence and becomes a grumbling, disagreeable, demoralising inmate of the union-house. But before the cuckoo arrives he is again on the tramp, arranging his summer campaign. In these midland counties the popular route seems to be from London to Cardiff, and of course back again. Although professing much laudable anxiety to secure work he will seldom take it when it is offered. He only works in very exceptional cases, when something unusually tempting turns up, and never for more than a few days at a time. Vagabondage, not work, is the occupation of his life. Rags and tatters, a whining tone, a shambling limping gait, and occasionally a hapless following of wretched children are often assumed to evoke sympathy. Blindness, fits, and other diseases, with loss of arms and even legs are occasionally simulated; ugly sores are artificially produced and magnanimously kept open to attract attention and alms. With some aristocratic members of the fraternity begging letters and petitions are in vogue; of those 3,100 came during 1870 under the discriminating eye of the Mendicity Society of London alone. When searched, money and valuables are occasionally found concealed about the vagrant. A flagrant case of this kind occurred last year in London: a fellow from Bristol, 48 years of age, representing himself as a labourer out of work, starving, and in much distress, was found begging. He was apprehended, and when searched was discovered to be possessed of fifteen pence in bronze, six pounds sixteen shillings in silver, and a Post Office Savings' Bank book representing thirteen pounds ten shillings deposited in his own name. The food or clothing in mistaken kindness supplied to the habitual tramp is often sold by him at the nearest town. Money received in alms, or in exchange for victuals or for articles pilfered, is expended in drink. Only when unfortunate in his begging, or failing to pick up any convenient saleable commodities does he care to seek the hospitality of the workhouse or of the police wards. Not one half the vagrants, and in many counties as in Yorkshire, only one-sixth condescend to partake of public hospitality. From their own resources, or from some of their pals they can usually command the sixpence or eight pence which secures the supper, bed, and breakfast at the common lodging-house. After a prosperous day's work great feasting and carousing goes on in the beggars' kitchen, and their less fortunate fellows are usually invited to share in the good things going. In the metropolis tramps occasionally claim admission to the union or casual wards, obtain their bread and skilly, but, instead of turning in for the night, they take their departure, and have thus been known to obtain a succession of suppers at these open hostleries. The professional tramp is generally provided with lists of persons in the locality from whom charity is likely to be obtained; occasionally his way guide indicates whether at the houses of call food, clothes, or money can most readily be procured; sometimes the charitable member of the particular family receives honourable mention; sometimes it is carefully noted where women, children, foreigners, infirm, blind, or deaf and dumb persons, or persons pretending to suffer from these infirmities, are favourably received; desirable begging routes are chalked out, concerning which fuller information is of course afforded at the common lodging-houses. The old hands are also thoroughly informed of the discipline, diet, and labour of any of the workhouses; and are kept thoroughly posted up regarding any magistrates or others who are disposed to curtail their privileges or interfere with their liberty, and many of them also know very accurately the regulations and laws applicable to their vocation. Congregated in low lodging-houses or casual wards these good-for-nothings concoct and

carry out fully one-half, some authorities say, three-fourths of the crime for the repression and conviction of which the country has to pay so heavily. Mr. Dunne, the energetic chief constable of Cumberland and Westmoreland, where for nearly three years the Vagrant Act has been stringently enforced, in his evidence of January, 1868, printed by order of the House of Commons, states, "That he had no doubt that 99 out of every 100 tramps were professional mendicants, and a large proportion of them were convicted thieves and lived by an organised plan of plunder. Nearly all the serious crimes such as burglaries, highway robberies, and many of the petty larcenies in these counties had, during the last eleven years, been committed by tramps. A very large proportion of the prisoners in the gaols were tramps." For the year ending 29th September, 1870, Captain Duncan McNeill, chief-constable of the West Riding of Yorkshire, reports that 609 crimes had been committed by tramps within the West Riding limits. Captain McNeill continues, "Vagrancy is a profession followed only by a class who are too idle to work; and who, being encouraged in their idleness and mendicancy by the misplaced benevolence of those on whom they are successful in imposing, are thus enabled to carry on an organised system and life of idleness, deceit, and plunder." The total cost of vagrancy to the country, although impossible accurately to ascertain, must be very large. From the Judicial Statistics for 1869, it appears that 29,186 vagrants were in that year proceeded against summarily; whilst 704 were apprehended for indictable offences. An army of vagrants probably still numbering 40,000 cannot, at a moderate estimate, be maintained at less than 6d. per diem for each individual. This would amount to £1,000 per day or £365,000 per annum; towards this large amount vagrants at present contribute scarcely anything in the shape of profitable labour. It is impossible to assess the value of the property stolen or destroyed by vagrants—the larcenies, the robberies, the losses from fires kindled by them cannot be set down at less than £300,000 per annum. I cannot pretend to indicate what proportion of the general charges for police, assize, and prisons should be placed to the credit of vagrancy. For vagrants, in common of course with other offenders against law and order, the police force is maintained at cost, which for the year ending September, 1869, is set down at..... £2,116,884 17 10

No. of Prosecutions:

3,976 Assizes	46,404 19 8
10,166 County and Liberty Sessions ...	72,083 8 4
3,089 Borough Sessions	18,810 18 8
16,552 Criminal Justice Act	73,235 17 2
2,793 Juvenile Offenders' Act	1,616 0 8
Total cost of county, borough, and Liberty Prisons, Official Salaries, &c. (the annual cost, of each prisoner being £24 16s. 9d.)	640,318 10 6
	<hr/>
	£2,969,354 12 10

From the judicial statistics, I find that law and justice during 1870-1871 are stated to cost the country about four millions sterling. Getting rid of vagrancy, or reducing it to a minimum, one fertile source of crime would be removed; and some considerable reduction might accordingly be expected in these serious judicial charges. What, it may be asked, have been the causes of all this vagrancy, with its attendant waste, its immorality, its crime, and its cost? With increase of national wealth and growth of philanthropic anxiety to aid their distressed neighbours, has rapidly grown a widespread system of irregular and indiscriminate charity. With a mistaken interpretation of the Divine enunciation "It is more blessed to give than to receive," a well-meaning public distributes to unknown tramps, food, clothing, and even money. Mendicancy and vagabondage are hence steadily fostered. The roving life, so free and independent, comes to be cultivated as a profession, and, skilfully prosecuted, has often been made a paying as well as a pleasant pursuit. Despite the vigilance of the police, the fruits of begging are considerably augmented by petty larcenies. Tramps' lodging houses, low publichouses, the marine stores and other such establishments, afford convenient facilities for the sale or barter of all kinds of commodities; and concerning the way in which such articles may have come into the possession of their vagrant owners, no prying questions are

asked. Improvidence, intemperance, strikes, depression of trade, with the baneful influences of criminals rendered more numerous in this country from the abolition of transportation, have all contributed to swell the ranks alike of pauperism and vagrancy. From generation to generation, the curse, if I may so say, of vagrancy is transmitted. As agriculturists, you well know how the habits and instincts, as well as the external characteristics of animals, are transmitted from parents to their offspring. Amongst dogs, for example, how notable are the distinctions between the pointer, greyhound, retriever, lurcher, bull-terrier, and the shepherd's dog! Each of these varieties begets its own kind with its special tendencies and capabilities. Need we wonder that with the human animal, unimproved by education, by wholesome surroundings, or by religion, paupers beget paupers, and vagrants propagate vagrants? It would be an anomaly were it otherwise. Unfortunately, children seem usually to be born in inverse proportion to the means of supporting them. There is little chance of the race of tramps dying out from lack of issue. The beggars' brats are proverbially numerous. As already indicated they inherit their parent's vagrant ways. "As the old cock crows the young one learns." Early trainings and surroundings speedily make them masters of their art—sharp-witted, cunning, impatient of control, blind to the maxims of *menem* and *inmem*. The difficult question as to the treatment of these infant vagrants I postpone for the present. Whilst charitable individuals by their indiscriminate doles have fostered beggars and tramps, the Poor-law Amendment Act of 1834, with the subsequent minutes on the Destitute Houseless Poor, bearing date 23rd December, 1863, has given them a legal recognition, and by allowing them without inquiry to demand shelter and food at any work-house, has many fold increased their numbers. Having thus commented upon some of the more prominent causes which encourage vagrancy, it may be profitable briefly to note what has been already done to abate the national evil. By far the most important step which has been taken against vagrancy has been the stringent enforcement of the Vagrants' Act 5, Geo. iv., cap. 83; 1 and 2 Vict., cap. 38. Wherever it has been intelligently and consistently carried out, satisfactory results have followed. The odd thing is that it should have so long remained almost a dead letter, and that even now in many counties and boroughs is only fitfully and loosely applied. At the risk of being somewhat tedious I cannot help presenting you with evidence of its salutary results. In Cumberland and Westmoreland previous to 1868 tramping vagrants were an intolerable nuisance, and were decidedly on the increase. The Vagrant Act has been in force three years, and Mr. Dunne, the chief constable, reports that during the year ending 29th September, 1868, there was a decrease in the conjoined counties of 6,935 vagrants, "while various petty larcenies, burglaries, and other crimes decrease in a most remarkable proportion." In Lancashire the Court of Quarter Sessions in April, 1869, determined that all vagrants and tramps offending against the law should be apprehended. Vagrancy has decreased. Petty larcenies during the first year were reduced 20 per cent., whilst during the second year they have diminished fully 30 per cent. Since the Midsummer Session of 1869 the Vagrant Act has been strictly enforced throughout Gloucestershire. Tramping has been reduced. In the quarter ending September 1868, 5,258 vagrants were relieved; during the corresponding quarter of 1869, under the new system, 4,878 were relieved; during the same three months of 1870 the numbers fell still further to 4,475. Mr. Christian, the head of the Gloucestershire Constabulary, informs me that so soon as the Vagrant Act was put in force, the numbers of vagrants decreased, and with them the number of cottage robberies, previously very prevalent during the summer months. Mr. J. H. Bayly, the energetic head of your Northampton Constabulary reporting to the Michaelmas Court of Quarter Sessions for 1870, states that since the provisions of the Vagrant Act were more strictly enforced, "The action of the police has very much increased, the consequence is that vagrancy was proportionately diminished throughout the county, and also the annoyance from vagrants to the inhabitants generally. The number of vagrants and wayfarers relieved in seven unions in the county by the police during the year was 7,776 against 9,962, showing a decrease of 1,986." In Warwickshire the Vagrant Act has been actively carried out during the past two years. Although vagrancy had not been as yet so much abated as in some other counties where the

system has been adopted, Mr. Isaacs, the chief constable, in his official reports, remarks that "No complaints are now made to the police of the begging nuisance;" and that, "by continuing the same active steps as are now in existence I am of opinion that vagrancy will be ultimately be reduced to a minimum." In Oxfordshire and Worcestershire the systematic working of the Act has likewise diminished considerably the numbers of tramping vagrants. The inspectors of constabulary for the southern half of England and Wales, in their report to Michaelmas last, state that vagrancy, as far as it comes under the cognisance of the police, has considerably decreased. The report sets down 232,693 applications for relief against 286,066 in the preceding year. But these figures greatly understate the actual amount of vagrancy; for, as already pointed out, many tramps eschew public aid except when hard pressed by want, whilst in Kent, Warwickshire, Oxfordshire, and other counties the vagrant is relieved at the workhouse, and the returns are not seen by the police. In some unions where the police were at first appointed assistant relieving officers, and half the pay of an intelligent constable discharged by the union, the trifling cost of this arrangement has been grudged, the useful services of the police dispensed with, and relief administered by the union authorities themselves. Under the general Vagrancy Act, or under any local vagrancy regulations, children above seven or under fourteen years of age found begging, or otherwise infringing the Vagrant Act, can be taken into custody and sent to an industrial school. This should be done more commonly than it now is. The juvenile pauper, vagrant, or criminal—and the three classes are almost inextricably commingled—is thus nipped in the bud, and by sound training and healthy surroundings may become an honest and useful member of the community. Under the Juvenile Offenders' Act nearly three thousand prosecutions are made every year at a cost to the country of about two thousand pounds sterling—one-third more than it did in 1862; but it is money well spent, for assuredly in vagrancy, as with many other matters, prevention is better and cheaper than cure. Besides the strict enforcement of the Vagrant Act, various other measures have been devised for the repression of vagrancy. The President of the Poor-Law Board issued a circular bearing date 28th November, 1868, enjoining that all able-bodied vagrants lodged and fed at the union-houses or casual wards shall be subjected to a labour-test, such as picking 2lbs. of oakum, breaking 2 bushels of stones, pumping water, or other such work, which shall not, however, occupy more than four hours. The Board, in their circular, act sensibly on the scripture injunction, "If any would not work, neither should he eat." But although 60 to 90 per cent. of the vagrants are able-bodied, the labour system has not worked as well as might have been anticipated. Able-bodied casuals constantly refuse to work, and magistrates refuse to commit them in default. Even with task-work as an equivalent for a fair dietary, vagrants continue their visits. Thus St. Giles', Camberwell, with a good dietary, but exacting task-work, housed and fed the subjoined increasing number of vagrants during the four years ending the 31st December, 1868:

1864.	1865.	1866.	1868.
7,112	7,451	14,100	16,216

Andrew Doyle, Esq., Poor-law Inspector, in his report to the Board on the 30th of December, 1865, states that, "Although a labour test is a perfectly efficient means of checking imposture, if you have only to deal with ordinary wayfarers, and although after its first introduction into a union, and whilst it is still novel it appears to be successful, yet from one cause or other it breaks down when applied to professional tramps—who only broke the hammers instead of the stones, and destroyed the oakum that was given them to pick." As with the Vagrant Act, so with the union labour test, its imperfect success seems to depend not upon any inherent defects in the system, but from its being loosely and irregularly carried out. I understand that one-fourth of the unions in Yorkshire exact no labour test; in Northamptonshire there is nothing worthy of the name, whilst in many unions in most counties the task work is merely nominal. Frequently the tramp, who has had supper and lodging for the night, has the option of leaving the union before breakfast, when he escapes task work, and this alternative is largely taken advantage of, especially during summer weather, the knowing hands being well assured that breakfast usually superior to that provided for them at the

public expense may be obtained from private charity. The Pedlars' Act of 1870 deserves here a passing notice, as it prevents begging and vagrancy being easily prosecuted under the mask of hawking, and provides that every hawker must have a licence, to be obtained from the chief officers of police, procurable on the production of a satisfactory character, and payment of sixpence, and remaining in force for twelve months unless forfeited by misconduct. If a hawker travels into an adjoining district or county, his licence must be endorsed by the chief officer of police, and must at all times be shown, if required, to the police, to purchasers, and to any person on whose premises the hawker is found. Vagrancy has been attempted to be checked by the establishment of mendicity societies, which supply tickets to their members, who distribute them to those whom they regard as worthy recipients. The ticket entitles the bearer to receive food and lodging, which is supplied either through the relieving officers or the police. In Dorsetshire, where the mendicity plan has been tried rather extensively, vagrancy is stated to have been reduced 30 per cent. At Rugby and Kenilworth a similar mode has been in operation for about two years. Good as undoubtedly are the objects of these associations, their results are extremely questionable, and are thus very clearly and sensibly set forth by Mr. Isaac, the chief constable for Warwickshire, in his report to the Quarter Sessions for October, 1869: "The objects of these societies are good; but some parts of their system of working appear to be very objectionable and have a tendency to encourage the offences they are expected to remove; in explanation of which I beg to say that the professional beggar excuses himself when found soliciting alms by saying that he is in search of a person who holds tickets in order to obtain relief at the police station, and at that time he may have obtained several tickets the same day and destroyed them; and in the course of his rounds got pecuniary relief from charitably disposed persons who will not turn them away empty. This places the police in an awkward position, as in order to test the truthfulness of their statements they would be subjected to a great amount of additional labour. The relieving officers also place themselves in a very delicate situation by refusing relief to some of the ticket holders whom they do not deem deserving of charity. It frequently happens in these cases that they go to the persons who gave the tickets and complain against the officers, and I am sorry to say in some instances they receive commiseration from the very persons who should act otherwise, and the relieving officers are questioned upon their conduct and censured although they are carrying out their duty to the best of their ability. To remove these difficulties, I would recommend that the ticket system be abolished, and the police, who from their experience and knowledge of this class of characters are best able to discriminate, would administer refreshments, &c., to those only whom they consider entitled. The police would then be able to apprehend all vagrants found begging, and the excuse they now have would be of no avail to them. The object of the subscribers would also be fully attained, and they would cease to have the unpleasantness of coming in contact with the mendicants." Although begging for these mendicity tickets often gives a colourable pretext for all sorts of begging, the distribution of such tickets by benevolently-disposed persons is greatly preferable to the distribution of food or money. In the hands of the experienced officers of the Society for the Suppression of Mendicity, Red Lion Square, London, the ticket system has helped to check public begging, has assisted worthy objects in distress, and has exposed and defeated imposture. Another description of tickets has recently, with considerable advantage, been adopted as a means of checking vagabondism. The police, and in some localities the relieving officers and the masters of unions, issue to wayfarers known to them or giving a reasonable account of themselves, and on the tramp for work, a ticket-of-way or pass, in which the sex, height, appearance, distinguishing features of the bearer, are set forth with the occupation, place of starting, route proposed to be travelled, and proposed destination. Such tickets-of-way have for two years been in operation throughout Gloucestershire, and are now recommended for adoption in Hampshire. They enable the bearer to secure rest and refreshments at the unions, casual wards, or police-stations on his route. Besides supper, lodging, and breakfast, in Hampshire and Gloucestershire the ticket-of-way holder to obviate the need of begging is provided with about

six ounces of bread and an ounce of cheese as a mid-day meal. Ten to twenty miles, according to physical capacity, is set down as the day's journey: to prevent loitering and idling, which are so apt to lead to mischief, a prescribed time is set forth within which the tramp's journey must be accomplished between one resting-place and the next. Where these conditions are complied with the ticket-holding wayfarer is exempted from the labour test. Mr. Henry Christian, the Chief Constable for Gloucestershire, informs me that although the ticket-of-way system may not have had much effect in reducing vagrancy, "it is valuable in enabling us to treat differently those who are walking steadily through the country and those that are loitering about. The rule in Gloucestershire is, that if it appears from a vagrant's ticket that he has walked about twelve or fifteen miles during the day he is relieved, and allowed to go away in the morning without doing any work. If on the other hand he is loitering, and not walking more than three or four miles a-day, he is obliged to do about four hours work before leaving the union." Where partially adopted, as in one union in Worcestershire, and throughout one or two in Oxfordshire, these way-tickets can be of little use. Against their general adoption it has been urged that they might be freely used by miserly travellers, able enough to pay their own way, as, for example, by the hordes from the East end of London, who annually go down hop-picking into Kent, Surrey, and Sussex, or by Irish and other reapers in search of harvest-work. But such objections equally apply to the present system of indiscriminate relief which all comers can demand at the union houses. Everywhere throughout the country travellers requiring food and shelter at the public expense should, I think, be compelled to obtain their ticket of way. Their passports being *viséd* daily as they passed along might keep them under better control than at present, and would secure the preservation of a record of their wanderings. A tangible distinction so much required would further be established between the unfortunate destitute wayfarer in search of work and the habitual tramp who abhors work. Such a distinction unattainable under the present system would enable the police and the union authorities to deal much more decidedly and stringently than heretofore with the incorrigible vagrant who refused to work or was guilty of malpractices. Such idle rogues deserve little commiseration; the more uncomfortable and unremunerative their tramping can be made the more likely are they to relinquish it and become absorbed into the ranks of honest industry. When such determined vagrants are caught offending against the Vagrant Act or otherwise, I do not see why their punishment should not be more severe than heretofore, why during a somewhat longer imprisonment they should not at intervals, if able-bodied males, be treated to occasional whipping. Amongst the lower animals the rod is rightly regarded as the most ready and convenient stimulus for the dullard and the perverse, and amongst the demoralised determined drones of the genus homo, sound castigation would doubtless in like manner develop some anxiety for steady exertion. Whilst at large they add nothing to the general benefit or wealth of the country; they live like drones on the public. In the house of correction, originally prepared for their reception, during somewhat lengthened periods of confinement they would be supported quite as cheaply and more safely for the general weal than when out on their professional tours. Alike for lazy tramps and for the country at large, it would be well if the Belgian law could be introduced throughout England, and every vagrant apprehended, compelled to work for his maintenance. In conclusion, I would remark that vagrancy has outgrown the reach of local remedies; it is on the increase throughout many of the northern counties of England, in Berkshire, in Surrey and some other of the Metropolitan counties, and in both Scotland and Ireland; it is beyond the grasp of the guardians, who have enough to do with the management of the resident pauper; it cannot well be controlled even by the Poor Law Department; it can only be generally and successfully grappled with by the Imperial legislation, which has this Session been promised. Concerning the provisions to be submitted to Parliament I can furnish you with no information, but I venture to recommend to the Banbury Chamber the following resolutions:

I. That the Vagrant Act (5 George IV. cap. 83, and 1 and 2 Vic. cap. 38) having been so successful in diminishing vagrancy and crime, wherever it has been properly carried out,

shall be enforced throughout Great Britain, and shall in counties, cities, and boroughs be carried out with strictness and uniformity.

II. That juvenile vagrants be apprehended and placed in reformatories and industrial schools.

III. That, by advertisement and other means, the public be enjoined to discountenance begging, refuse alms, refer destitute strangers to the police, and give such information as shall enable the police to apprehend beggars.

IV. That to guard persons from suffering from absolute want, food or shelter, on a uniform scale throughout the country, shall be provided at the union houses, or where more convenient, at the police stations.

V. That tickets of way (as above described) be issued by the police, the relieving officers, or the masters of workhouses, to destitute wayfarers apparently desirous of work, who without any labour test shall receive more liberal refreshment and somewhat better sleeping accommodation than that provided for the habitual tramp.

VI. That the habitual vagrant unable to qualify for a ticket of way shall be kept separate from the wayfarer, and of course from the pauper, and receive food and shelter only on condition of his performing three or four hours' work. Non-performance of task-work, or any offences against the Act, should be punished by imprisonment and whipping uniformly and rigorously awarded.

VII. In order that vagrants be under police supervision an intelligent officer should be attached to every union house, and check off, grant, cancel, and enter tickets of way, enforce order and cleanliness amongst the vagrants, and see besides to the registration and supervision of common lodging-houses.

Mr. TAWNEY said that the question of way-tickets was brought forward at the Quarter Sessions on one occasion, and it was stated that it was doing good in Gloucester. It was generally acknowledged that it was a good plan, but then the question arose, who were to issue these tickets? If the county police were to do it, then they must not mind the county-rate being increased. If adopted in this county, the Chief-constable said that he would require five more policemen. He was of opinion that the vagrant ought to be kept separate from the man with a way-ticket. There should be tramp-wards erected, and though this might cost some money at the outset, it would be cheapest in the end. This had been tried in some places and found to work well. If the police were strict in apprehending vagrants, the magistrates strict in committing them, and the men who gave the way-tickets strict in that, vagrancy might be repressed with ease. The great thing was to cut off the supply, and never give charity to tramps. He believed that it was merciful not to give them charity, and they might think that when they gave relief to those men that they were doing them a kindness, but really it was not so. They should also insist upon their servants not giving. Their servants might not have money to give, but they had their masters' bread and broken victuals to give. Another thing that was wanted was uniformity. It was no use one county doing one thing with tramps, and another another. A friend of his was very proud of his union, because there were so few tramps in it, but the one next to it got all the fuller. By tramp wards, by the police apprehending all vagrants, and by strictly carrying out the law they had, they would get rid of the evil so much complained of and from which they all suffered.

Mr. BURNHAM said that what Mr. Tawney had said might be very just; but when they got them into the tramp wards, they turned them out vagrants again. He thought they should pass them over to some refuge where they might be reclaimed, and made good members of society. It would be better to have a few such refuges for them, and surely England was rich enough to provide for its own people. The present system was a very great nuisance. The tramps came out of manufacturing towns and large cities, and very few spring out of the rural districts. A good many of them came out of prisons, and there should be some place where they might go and become better members of society.

Mr. DUN: Your system would be an awful cost.

The CHAIRMAN: Mr. Dun proposes that juveniles should be sent to reformatories; but I don't think such treatment would be successful with old tramps.

Mr. THURSBY also thought such a course would have no effect on old vagrants. He believed with Mr. Tawney that

they wanted more uniformity in dealing with tramps. If the county police did their duty, and brought all vagrants before the magistrates, and the magistrates did their duty and committed them, in a very short time the habitual vagrant would be put down. In his neighbourhood (Wormleighton) during the last two years they had sent all vagrants to the House of Correction for three weeks, and the result was that now they had nothing like the number of tramps they used to have. If every county rigorously carried out the law, they should get rid of vagrancy. There should be tramp-wards, the police should insist upon their doing so much work, or they should have no relief. Although it might cost money in the first instance, in the long run they would be gainers.

Mr. TAWNEY was in favour of flogging, and thought they were too delicate now-a-days as to what was good for some people.

Mr. SHARP said that in his parish (Thenford) they had been relieved of tramps through aiding the police in apprehending them, and putting up placards that all such would be apprehended, but the great point was, don't give.

Mr. GRIFFIN (Edgcote) said that where they used to have twenty they had not one tramp now.

Mr. BERRIDGE urged the importance of uniformity, and the police looking sharp after the vagrants. If the police were watchful he did not think they would require the additional accommodation for tramps that had been suggested.

Mr. DAVIS thought that the giving relief should be transferred from the masters of unions to the police. He did not think that vagrants ought to be admitted among the local poor in the union. They ought to be kept separate, and the expense of vagrancy ought to be thrown on the whole country, and not upon unions. He strongly urged that vagrants should be housed at police stations, and that wards should be built for that purpose.

Mr. DUN said that many unions had been over-built, and could thus easily find accommodation for vagrants, so that they might be kept distinct from the local poor.

Mr. BURNHAM was not in favour of an officer being attached to the unions, as it would increase the expense. There was generally an efficient staff in unions.

Mr. DUN said that the appointment of such an officer was the whole question. If they took that proposal out of his resolution, then the rest tumbled to pieces. In less than a year the man would have paid his salary, and in a year they could dispense with his services, as then they would have no vagrants.

Mr. Tawney, Mr. Simmons, and others were in favour of an officer being stationed at the unions; and the chairman said that it seemed that generally they were in favour of such an official, but the difficulty was who was to pay him. He thought that the difficulty might be met by taking out the words "and paid in part if not entirely out of union rates."

Mr. DUN said that he would not object to that being taken out.

It was then agreed that those words be struck out, and that the last resolution should read as follows: In order that vagrants be under police supervision, an intelligent officer should be attached to every union-house to examine and check off, grant, cancel, and enter tickets of way, enforce order and cleanliness amongst the vagrants, and see besides to the registration and supervision of common lodging-houses.

A vote of thanks was given to Mr. Dun for his paper.

THE INFLUENCE OF TREES ON EVAPORATION.

—The views expressed by Dr. Schomburgk, of Adelaide, with respect to the influence of forests upon climate, are contested by Mr. Harndt in the "Queenslander," who disputes the doctor's proposition that the shade given by trees keeps the ground moist. Mr. Harndt's observation and experience go to prove that land which is under cultivation, or is laid down in pasture, is damper than woodland. He says: "To satisfy my own mind concerning the evaporation that goes on in the Australian forest, I placed a common bucket, holding about two quarts of water, in an exposed place in my garden, and another bucket, with the same quantity of water, in a secluded piece of forest land, and under a wattle tree, that it might have plenty of shade. A piece of freshly-split blood-wood was put into each bucket, and the water became so bitter that nothing would drink of it. In nineteen days after every drop of water

in the bucket in the forest had evaporated, and at the same time there was a little left in the bucket in the garden. The latter was not totally dry for a week after. I tried the experiment again, and again the water in the shade of the forest evaporated before that exposed to the sun. This was in January and February of the present year. Dr. Schomburgk and other gentlemen who write upon the influence of forest upon climate may try as I did; I will be exceedingly glad of any explanation, scientific or otherwise, which will explain how it happens that the evaporation of the forest is more rapid than that of the open air. My explanation is that the leaves of most of our forest trees (all the eucalyptus tribe) give

off more moisture than either open pasture or cultivated ground. I do not doubt for a moment that the tall trees of the forest bring down heavy rains which, were the trees cut down and burnt off, might pass over the ground without falling. But I maintain that one acre of cultivation will do more to equalise our rainfall—to give us that steady slow rain which enricheth the earth—than any fifty acres of forest land in the country. That one peach tree will do more for the climate than gum trees, I am certain. As a test of this, we can grow lettuce under the peach, but couch grass will wither under the gum." The inquiry thus opened up might be advantageously pursued in all parts of Australia.—*The Australian*.

STOWMARKET FARMERS' CLUB.

FARMING ON THE FLAT.

At the last meeting, Mr. EDWARD LINGWOOD, of Brockford, said:

The subject for this evening's discussion is, "On Flat Cultivation upon Heavy Land," but should I, in the course of this paper, diverge a little from my subject, I shall be pardoned. Agriculture is an institution dating from the earliest ages, for do we not read that Abel was a keeper of sheep, and Cain a tiller of the ground? and, under these circumstances, I think we may fairly call them the original leather-jerkined farmers. "There's nothing new under the sun," is a commonly accepted adage; yet when we look at the vast improvements that have been made in the various appliances for the more successful cultivation of the soil within the last fifty years, we feel very much inclined to accept the proverb with a certain amount of mental reservation. That the ancients had their ploughing matches, and probably their Howards and Ransomes as well, may reasonably be supposed, but did they really arrive at steam cultivation? I must be permitted to doubt it, or how is it none of our learned antiquarian professors, in their researches into the records of the past, have ever happened to meet with a controversy on the merits of the direct *versus* the roundabout systems? However, as our business to-night is more with the present than the past, we will turn to something nearer the matter in question. The usual plan of cultivating the strong soils of this county has been in from seven to nine feet divisions, locally termed stetches, but known in other parts of the kingdom as lands or ridges. There is little doubt that originally furrows at such short intervals were intended, before underdraining was the rule, to carry off the redundant surface-water, and also to afford solid footing for the horses when engaged in harrowing and rolling, for drilling is a comparatively recent invention. Now, I think there can be no two opinions that surface water running off the land into the ditches must carry off fertilizing matters with it; so perhaps thought the first underdrainer. Mr. Mechi is not the man, though one would suppose by his writings such was really the case. I could point out a farm to the alderman that was, what I believe at that time was called hollow-drained before the year 1820. At all events, a very great boon to us this discovery was; nevertheless the narrow stetches were, until recently, still held to be essential, though the drainage had, in a great measure, superseded one of their uses. This, combined perhaps with a desire for deeper cultivation, has doubtless led to the adoption, in some parts, of what is called broad or flat work. Not of course that the land is laid perfectly flat, but to distinguish it from the plan previously adhered to, and which I have already spoken of. What the turnwrest plough may hereafter accomplish I cannot say, but we are not so advanced at present; and supposing we did use such a thing, but one could be employed in a field to maintain a perfect level. Now, it will be worse than useless to attempt the system I am advocating, unless the drains are in good working order; and the most suitable time for the change is undoubtedly on the fallow-break. It is true you can plough a barley stubble crosswise for beans, peas, or flax, or a bean stubble in the same way for wheat; but supposing you do so, it can hardly be made to lie in a workmanlike manner. Instead of this we will suppose the enclosure, having had the requisite number of earths, is ready

for drawing out. In place of opening furrows every three yards, a considerable amount of labour will be saved, for the distance will be increased to twelve or eighteen yards, the latter width being the better where there is not too much turning. In Suffolk the greater proportion of farm leases bind the tenant to the four-course system of husbandry, and in that case barley (rarely oats) follows a fallow. To get small stetches into proper form for this grain it is usually held necessary to plough them twice over, but in flat work the drill and harrows are used across the furrows, which thereby become sufficiently filled up without going to the expense of a second ploughing. By-and-by we may be using double-furrow ploughs; these must prove most manageable on wide work. Having said thus much upon the subject of ploughing, the seeding will next demand our attention. This, except on very small holdings, is now almost invariably accomplished with a corn and seed drilling machine. Here a little more difficulty will be experienced, for leading a shaft-horse along a furrow, and taking him across a plane surface in any required direction, are different matters. However, the agricultural implement makers have proved themselves equal to the occasion; for a drill has been constructed to cover 7 feet, with a fore-steering that any labourer can manage, which is well adapted to its purposes, and being drawn with plough-tackle, the horses can be pushed on by the driver without any risk of getting the rows of corn out of line, which would probably be the case were the whip used when leading. There is no difficulty in getting a steering fixed to one of our common machines. The disadvantages of this, however, are—it will not cover so much space; one wheel oftener than not must run on a previously-sown row, which in showery weather is decidedly objectionable; and an arrangement must be made for staying the coulters from side motion: so that I would strongly advise an investment in the more efficient implement where the size of the farm will warrant such an outlay. In speaking thus in favour of drill-steering, I don't wish to infer that men cannot be found occasionally who can lead well (recollect I am speaking solely of heavy land); but on the contrary, how much oftener does it cross our minds, whilst looking endwise at the rows of plants, that the workman must have taken the edge of a hand-saw for his pattern. A landscape-painter will tell you a straight line is not the line of beauty; but in matters agricultural the case is different, for, as well as being pleasing to the eye, it is essential, not only to the regular distribution of the young plants—in itself an important consideration—but to the after-eradication of the weeds by horse or hand-hoeing. In putting in corn on the level all the land is regularly covered. This will necessarily lead to a greater expenditure of seed. Where six to seven pecks of wheat per acre and nine to ten of barley are the usual quantity for small stetches, the former practice will absorb about one-twelfth more. Very thin sowing may be all very well where there are no rooks, partridges, pheasants, larks, slugs, grubs, or wireworms; but do any of us farm in such a favoured locality? Depend on it, there is a happy medium in this as in most other sublunary matters. Some of the advocates for thin seeding have now reduced their scale to half-a-peck an acre, so that I shall not be very much surprised to be told, before many years, that it is wasteful to

put in whole kernels, split ones being far more economical. In harrowing broad work there seems to be no reason why eleven or twelve feet should not be covered at one time as well as seven or nine. Harrows for using on stiff land having been usually made of the latter width, it will be well to drive them once across the drills, or the rooks will be apt to find a meal much too readily; and, as I am on the subject, permit me to remark that it seems a strange piece of legislation that a gun loaded merely with gunpowder, and for the sole purpose of putting to flight the black-coated thieves, cannot be left in the hands of a foreman whilst the occupier himself is absent from home, unless the latter takes a ten-shilling qualification. Truly ours is a Liberal (?) Government with a vengeance. Sooner or later weeds will arise, which must be exterminated in some way; and where there is no couch-grass or other perennial rubbish in any quantity, the horse-hoe will be found both more economical and more effective than the hand-hoe, always premising that the rows are equi-distant and straight. You cannot horse-hoe careless work, for you would not only cut up some of the crop, but leave half of the weeds as well; even hand-hoeing will not be an easy matter, with, perhaps, a variation of from one to three inches in the spaces to be hoed. Some few years since the proprietor of Tiptree Hall wrote to the *Mark Lane Express* to say that his man, by changing horses, had horse-hoed twenty-two acres in a day, and I cannot understand how it was some of our enterprising implement-makers did not take the hint. A Mechi's magic horse-hoe, with a guarantee to accomplish the above feat, ought to be a success; but I suspect they looked on the statement as what the Yankees call a piece of "tall talk." My reasons for preferring horse-work are, you can choose a fine day, when the soil is in the most suitable condition, and get over as much ground as a strong gang would hand-hoe in the same time, and at a much less cost an acre. This advantage is still more apparent in broad work, as there are no furrows to leave for another operation (skim-ploughing or otherwise); further, the space covered could not exceed four-and-a-half feet or half a stretch: even then, unless the ploughman possessed above the average skill, an occasional top row had to be left undone. I believe horse-hoes are constructed up to six feet wide. There is no concealing the fact—modern implements and improvements are far better adapted for large fields and large farms, than for small ones. Landlords now-a-days rather object to rebuild barns, but four times the area in implement sheds has become a necessity within the last thirty years. No longer since than 1840 our wheat was all cut with the sickle, the barley with the scythe; the stubbles being cleared of the loose corn by women and lads with hand-rakes; and all the produce was beaten out in barns, some time in the course of the year, by men wielding a stick and half a-piece. The case is altered now; for long before harvest the agricultural press blossoms out into reapers and mowers of every form and shape—self-raking; side, back, swathe, and sheaf delivery, to be drawn with one, two, or three horses. One that will tie up and shock in has, I believe, yet to be invented. The corn is ripe, the weather fine, so we purchase a reaper. Cannot it be set to cut lower, with far less liability to breakage; where, in place of ups and downs, it has an even surface to run on? and will not the horses employed be far less likely to return home at night with galled shoulders? And though some of the makers advertise their machines to work well across ridge and furrow, it may reasonably be supposed they must be both heavier and stronger to withstand the sharp jerking they are sure to receive. The American tumbler rake now commonly follows the reaper and mower to collect the barley and clover into rows for carting; but level ground is indispensable for this purpose. Many of you cannot fail to have remarked on thin-skinned and badly-farmed land a decided falling off in both length of straw and size of ear, as the sides of the stretches are approached. This proceeds from too deep ploughing, thereby bringing the dead soil to the surface with the last furrow; consequently the plant is unable to withstand the summer droughts. Another cause is from the ravages of rooks and other birds, whose instinct teaches them where their food can be reached in the readiest manner. A short time since I particularly observed a piece of wheat near a large rookery that had apparently lost the outside rows entirely, and thought to myself, had that piece been on the flat nothing of the sort could have taken place. Short straw and small ears seldom produce plump grain, and, as a

natural consequence, the sample of wheat or barley becomes deteriorated in value. In a dry season, like the last, all the clover was unusually short; yet I will undertake to say open furrows reduced the crop to the further extent of one-fourth. Turnip feeding with sheep is now a recognised part of the strong land farmer's business. Even here an even surface will be found best. There will be no fold breaking from the animals getting their heads under the hurdles in the low places, and the losses from casting will be reduced to a minimum. Formerly if one of the flock was discovered in extremis, its throat was cut, and the carcase forthwith packed for London. Unfortunately, from some cause, our customers in that quarter have become so much more fastidious in their appetites that, unless we feel inclined to risk a month's imprisonment, dead sheep are now very nearly dead losses. Let me observe, before entirely leaving the subject, that we often find what appears wrong in theory is right in practice, and *vice versa*. Some of you will wish to know how flat drilling will answer on fresh broken up land in the autumn. My reply is that I saw a field ploughed and drilled last season between the 5th and 12th of November. The wheels certainly did leave some ugly marks, and the horses had quite enough to do, yet the growing crop now shows not the slightest sign of having been injured by the practice. Get your wheat-sowing completed between the 20th of October and the 7th of November, and your difficulties on that head will not be found to be insurmountable. Hitherto it has been a generally received opinion that, provided a lad has insufficient brains for a profession or even a trade, he may be quite sharp enough to make a farmer of; but what applied half-a-century since is not quite so applicable at the present time. How ought a young farmer's education to commence now? Firstly, he should serve a term with a chemist. The markets are regularly attended by gentlemen who politely ask us whether we don't want some of their manure. Straightway a tin box is produced, the contents of which must be good, the smell is so abominable. A ton or two is ordered. It may be a fertilizer, or sophisticated saw-dust. In feeding-stuffs, again, are we always supplied with a genuine article? Did not Mr. Biddell tell his hearers at Lavenham the other day that he found in place of giving his stock rice-meal, a proportion of plaster of Paris had been added? For my part, I should prefer purchasing the articles separately, and mixing them myself. Surely some idea of chemistry would assist us in such cases. Again, a knowledge of mechanics, as applied to agriculture, would be found a most desirable acquisition, only to be properly gained by a sojourn for a time in the works of an implement maker; for, whilst numbers of clever contrivances are really what they are represented to be—durable and efficient—a good many others prove to have been made more for sale than service. Depend on it a man who intends to gain a livelihood by farming needs the possession, not only of a good constitution, but quite the average amount of intelligence as well. In concluding this paper, allow me to remind you that introducing a subject for discussion, and giving a lecture on that subject, are very different matters. There are a good many gentlemen in this room to whom I should not consider myself competent to lecture on any subject whatever.

Mr. NOBLE was quite an advocate for farming on the flat. There had been some very favourable seasons of late, and the soil on his farm was tender, and it might be more favourable to farming on the flat than many. A fallow would be the best break, and nothing laid better than that and the best land. What, however, did the three-yard stretch farmer do? He set to making the land as unlevel as possible to the detriment of the barley crop. As for layers, it was very often to be noticed that the clover was very much better on the tops of the stretch than in the furrow, whereas if the land was flat, there would be much greater uniformity. Mr. Noble also contended that a much better sample of wheat was produced by farming on the flat, remarking in regard to the system of having furrows that it was often to be observed that just as the wheat was coming on to the ear, it was caught by the high winds, but if on the flat there would be as it were a greater mass, and consequent less injury. He might say on the subject of ploughing, that his system in a field with a little fall was to plough contrary to the fall, and to drill up and down, and by that means he considered the water went into the land where it should go, and there was not so much

wash, and the horse-hoe would work much easier. There was much that was beneficial in rain-water, and great benefit resulted from filtering it through the land. He had as few furrows as possible excepting water furrows, and they were of course absolutely necessary.

Mr. THOS. WOODWARD spoke favourably of his own experience of farming on the flat. He had speculated in one of the steerage drills, and he found it to work admirably, and that the men were able to do the work in proper form. There were many advantages in farming on the flat, particularly now that sheep-keeping was made such an essential part of a farmer's business. His land was underdrained every six yards. It was no use farming heavy land unless it was well underdrained, and a farmer must take care to have his land in readiness so that when the weather was fine he could make use of it. It was a fact that the furrows retained the wet much longer than did the land farmed on the flat. He did not of course advocate that plan where there were stiff strong clay hills, but on the generality of lands he thought the broad stetch system would be found the best, for the land was ploughed better, deeper, and more regular, and he thought the work altogether could be done much better. It was also much easier to horse-hoe on the flat than on the three-yards stetch.

Mr. S. PAGE said that Mr. Woodward possessed some nice tender working land, and he might find it convenient to farm on the flat; but there were many who had strong tenacious land, and how were they to follow such a system as that? Take for instance such a year as 1860, would it be possible to put the wheel of a drill upon the stetch?—why it would be all dirt with no hole in the middle, and the seed would all be licked up. There had been some favourable seasons of late for farming on the flat; but we might look for a change, and it was, he thought, impossible to define a system to be followed throughout the county. He rather approved of flat-farming himself, and he had practised it a little; but he felt that he had not saved much by it. The land was so trodden-down and stamped upon in wet seasons, that it ploughed much heavier for the horses.

Mr. WOODWARD explained, with reference to the steerage-drill, that there was no difficulty about the coulters and the wheels, and he mentioned that he had on his farm some very stiff land, having had to put four horses on to the drill; but he got as good a plant of wheat as could be desired.

Mr. HAYWARD: You should come and see me in wet seasons.

Mr. NOBLE asked Mr. Woodward what he considered a fair day's work?

Mr. WOODWARD said he could hardly answer that question, as so much depended on the circumstances; but he thought that in drilling on the flat the horses walked much slower.

Mr. HEWITT had lived with Mr. George Symonds, who was about the first to introduce farming on the flat. His (Mr. Hewitt's) opinion was that a farmer should exercise his own judgment as to whether he should put his land upon the flat, for there was no doubt it was the right system on some lands; whereas there were farms where the stetch system was the most adopted. For his own part he should not put hilly land with a clay subsoil on to the flat; but he should drain it for all that. If, however, he had a piece of tender land, he should most certainly put that on the flat, believing that there were many advantages, the ploughing being sounder and more uniform, and the work could be got through much easier.

Mr. J. TURNER did not speak against the system which had been so much advocated this evening where there were good large fields and not hilly. The more he had seen of his neighbour's (Mr. Woodward's) land, the better he (Mr. Turner) liked it, the land being sounder, and the drilling was done in a first-rate manner. It was a great advantage in harvest time the wheats coming up much better; and in regard to the ploughing, there was no doubt but that more land could be got over, and that the work would be better done. He agreed with the observation that had been made that it was possible to get on the flat as soon as on to the stetch, as in wet seasons the furrows held the wet.

Mr. SCOTT should like to know more particularly what were the advantages of the broad stetch over the three-yard, as far as the produce of corn was concerned, and whether there was really anything to be gained. He thought there was one advantage, and that was there was not quite so much tail corn, so much of which came from the furrow ridge. He

should like to know how it was possible, on heavy lands, in very wet seasons like 1860, to get the wheats in properly?

Mr. WOODWARD said a heavy land farmer would get into a muddle if he drove his work off late, but he had experienced no difficulty if he did his ploughing early and got a dry coat on to the land.

Mr. HAYWARD related his experience in the year 1860, when the horses went into the land up to their hocks, and when the drill was blocked, and when he had to harrow ten times in a place. He had six horses on a drill, and he should very much like to know how it was possible to farm such land as that on the flat in wet seasons.

Mr. TURNER: May I ask what sort of a crop you got after all that?

Mr. HAYWARD: I had four horses on every load to get it home, and sixteen horses carting seventeen acres of barley, and the waggons slid the whole of the way home, and you could not see through the wheels.

After some remarks from Mr. C. Boby, Mr. J. J. Hatten, and Mr. Hill, the Chairman, in the course of which it was said that by getting the land well on to the stetch, and leaving a good wide furrow, there would not be more dross corn than if the land was farmed on the flat,

Mr. LINGWOOD said, as to the question what difference there was in the ploughing, he might remind the meeting that he had stated in his paper that supposing the land was ready for drawing out, in place of opening furrows every three yards, a considerable amount of labour would be saved, for the distance would be increased to twelve or eighteen yards, the latter width being the better where there was not too much turning. It was not every man who could draw out a three-yard stetch as it should be, and if it was not done properly the stetch must of course be wrong. If a man did not draw an eighteen properly, the drill passed across it. He did not of course wish for a moment to encourage slovenly work, because they might as well have the eighteen yards drawn properly as the three yards. As to the shutting up of the three-yard stetch, he did not think they ought to plough any land less than four furrows; but was it nine inches when the furrow was shut up? Was it not three inches? and did it not take a man as long to turn that in as the rest? Therefore, it was only 3 inches when it might be nine. As far as the ploughing was concerned, he did not think there was much advantage, but they could plough deeper on the flat than on the stetch. In reference to the remark as to leaving a wide furrow, he, for his own part, did not see why the land should not be growing something as well as lying idle. He knew an instance in which a man complained to him that he had to do more work in consequence of the land being on the flat, "because" said the man, "we used to get a little in at the furrows, whereas it is now mowing all alike." On ordinary land the barley was not got up so well on the side of the furrow as upon the flat. A good deal had been said about wet seasons, but he was of opinion that if the land was got in readiness in good time that there would not be much difficulty about it. If drilling was driven off till near Christmas, farmers would be very likely to get into a muddle. He had a good-looking piece of wheat, with no gap in it. Some gentlemen appeared to think that it was better to get on the three-yard stetch for drilling barley than on to the flat, but how often was it said that the land was ready for drill, but that it was impossible to get into the furrows?

Mr. HAYWARD: How was it six years ago?

Mr. LINGWOOD: There would be an exceptional year occasionally.

Mr. HAYWARD: I was obliged to leave the drill in the field so long that when I opened the box I found the barley had grown.

Mr. LINGWOOD said there were no doubt exceptional instances where it would be as well to keep on the stetch, but he thought that quite two-thirds of the land now farmed on the stetch would be better on the flat.

Mr. HAYWARD: You know my farm, and you know it would not be right to put those hills on the flat. Sometimes in case of a flood the soil is washed down, and I have to cart it away.

Mr. LINGWOOD: There is not a more practical farmer than Mr. George Symonds, and Mr. Hewitt says his land is on the flat. If you well drain land for some years the soil will become tender.

A vote of thanks to Mr. Lingwood closed the proceedings.

FRAMLINGHAM FARMERS' CLUB.

PULPING ROOTS FOR STOCK-FEEDING.

At the usual monthly meeting there was a good attendance of the members. The subject for discussion was introduced by Mr. Frederick Long, of Stowmarket.

Mr. LONG said: Chaff-cutting and root-pulping are so closely connected in stock-feeding that it would be difficult to separate them, therefore I propose first to start with the former. Chaff for cattle-feeding seems to be a very old institution, for nearly all the early and ancient agricultural writers recommend cut hay and straw. One of the first, Marcus Porcius Priscus Cato, who was born B.C. 234, in his "De Re Rustica," lib. 54, mentions chaff as the food for oxen, with the ordinary provender of the farmyard, and directs these to be given with salt. Doubtless, continual practice led the users to procure something to get over the work quicker than with the chopper cutting up fodder, and the design of the box to hold the stuff whilst it was operated on by a long knife was produced, and this was the only implement used until the end of the eighteenth century, when a Mr. Cooke, of London, obtained a patent for expediting the process. In 1797 another patent was granted to Mr. Robert Salmon, of Woburn, who produced the first machine with knives on a wheel for the purpose. In 1800, Mr. Lester, of Paddington, patented his chaff-cutter; it was a great step in advance, and came into favour quickly, and it is not difficult to meet with the Lester engine in work at the present day. During the first half of the present century numerous other machines were brought out, the most successful being Mr. Cornes, whose cutters for many years were first at the trials of the Royal Agricultural Society. These, and those of Messrs. Richmond and Chandler, may be noted as the most successful of the class. The advancing price of meat, as well as the growing demand for it, made many farmers look inquiringly at their straw stacks, anxious to know whether all their value departed with the grain, or whether there was not beef and mutton latent in straw as well as in turnips. It was this that created a demand for a large portable machine that would cut up the straw—that brought "Maynard's" sifting cutter into repute and extensive use. Of this machine I will quote the Judges of the Oxford Show. They say in their report: "Maynard's steam-power sifting chaff-cutter is intended to be used in conjunction with a portable thrashing machine to cut the straw, screen and bag the chaff as fast as the straw comes from the machine. It is driven by a strap direct from the fly-wheel of the engine, the pulley on the knife-shaft being 28 inches in diameter, revolves 270 per minute, and as there are five knives we get 1,350 cuts in that time. The chaff, as cut, falls into a sieve, which separates the cavings unavoidable in a power machine; these cavings are brought out at the end of the screen, and in one machine a caving elevator is provided, by which they are returned to the box incorporated with the straw and cut over again. The chaff, after passing through the riddle, falls into a shoot, which being finely perforated, allows the dust to separate during the passage of the chaff to the elevator, on which a sack is hung to receive it." I have, within the last month, had my attention drawn to what is claimed as an improvement on this machine—one of considerable more strength, and one that will accomplish much more than the one I have described, and will, in addition, reduce the cut straw into a soft state, or, if preferred, only break up the indigestible knots in the straw; doubtless the machine will be at the Wolverhampton Show. The most approved method of storing the straw after being cut appears to be to carry the cut straw into the chaff barn and have it well trodden down, mixing about a bushel of salt to every ton, and also a certain quantity of green stuff—tares or rye—cut green into chaff, sown by hand as the cut straw is brought in. This causes it to heat. Adding the amount of green stuff required to give it a proper heat is the great secret of the successful operation of storing chaff. Respecting the quantity of green chaff to be mixed with straw chaff, about one hundred weight to the ton of straw is enough. But some judgment is required as to the

state of the green stuff; if it is green rye on the ear, a full hundred weight is required; if very green tares, a rather less quantity will do, as the degree of fermentation depends upon the quantity of sap contained in it. I am not stating that straw chaff can be rendered as valuable as hay chaff for feeding purposes, but that it may, by judicious management, be made a very important auxiliary to the production of meat food for our fast increasing population. The straw used for chaff should be wheat and oat, for these may be cut without loss in a far greener state than is generally done. Barley, to be of good quality, cannot fairly be cut too ripe. If the chaff is prepared in spring and summer, it will come into use for October and the winter months. I will now proceed to the second part of my subject. Turnips appear not to have come into extensive growth in this country until about 1760, when one writer describes the change produced as a revolution in farming. They were used whole, until doubtless the chaff chopper suggested to some stock-breeder the necessity of reducing the roots also, and a stool or block was produced, on which the turnips might be held with one hand and chopped in halves or pieces with the other. A Mr. Brown, in 1803, patented a machine for cutting turnips, carrots, &c. This was a machine on the guillotine principle. Meanwhile, as the growth of turnips extended, swedes and mangolds introduced quite a new system of feeding, so much so, that roots came to be aptly called "the daily bread" of stock, demand was made for improved machines for cutting them, and the next great step taken was in 1854, when Mr. Gardner introduced his celebrated machine to the world. He followed it up by obtaining two other patents for turnip cutters in 1837 and 1838. After a little practice with sliced and other shaped pieces of roots, attention was drawn to what appeared to be a somewhat irrational practice, which was giving animals large quantities of neat roots (one to two cwt. per day), containing about 90 per cent. of water, and the solid food separately. The evil of this was seen by Mr. Moody, of Maiden Bradley, and in 1839 he introduced his root grater, or "ribbon cutter," as it has been frequently named. It consisted of an iron conical barrel, on which was fastened strips of gouge-shaped cutters. The long shreds of roots passed into the interior of the barrel, and oat at the larger end, down a spout into a sack. This machine was some time before it became known extensively, but those who adopted it soon found that by its use the quantity of roots, if mixed with chaff, could be reduced to 70 lbs. per head, and still have as good an effect in making meat as when the larger quantity was given; that the animals were in quite as good condition; that not so much litter was required; that the nature and quality of the manure was improved. There was the economy in the roots, and it was also found at least one-third more stock might be kept on the farm. Still some agriculturists thought that the strip system was tedious in mixing, and that although the chaff in some measure adhered to the surface of the thin slices, it could not be thoroughly incorporated. This was the origin of the "pulping" idea. A machine, with a pair of fine tooth rollers, similar to the dust rollers of a cake mill, was tried by one of the principal agriculturists of this county, and speedily given up. Still there was the want of the machine to reduce the roots to a fine state, and in 1854 the Royal Agricultural Society of England offered a prize for "The best machine to reduce roots to a pulp." At the Lincoln Show, in that year, Mr. Fredk. Phillips, of Downham, near Brandon, exhibited two machines, one "A Patent Turnip and General Root-pulping Machine," described as "a machine to reduce turnips and other agricultural roots to so fine a state of comminution as to admit of their being thoroughly incorporated with any dry food, such as chaff, meal, bran &c., that the animals may not be able to select them from the dry food with which they are mixed." This was a barrel cutter with projections in form like a saw tooth. The other machine was called "A Patent Turnip and General Root Cut-

ting, Grating, or Mincing Machine," described thus: "Will do much more work in a given time, but not altogether to so fine a state, that they may be well mixed with any dry food without the animals being able to select from it." The machine was a disc cutter with projecting knives made adjustable, and the price was £18 18s. The Royal Society awarded their prize to the first, or barrel machine. Directly after the show, the machine passed into the hands of Mr. Woods, of Stowmarket, and was rapidly made known, not only through the length and breadth of the United Kingdom, but over the whole of Europe, and wherever roots were used as food for stock. As years rolled on other machines appeared, all more or less alterations from "Phillips's" patent, some taking so much power to work that they were disliked by the men who had to turn them, and the barrel machine for hand-power came to be gradually laid on one side for one that worked easier. I mean the disc machine, or a modification of Phillips's second Lincoln machine. This has worked its way deservedly into public favour. At the Oxford Royal Show last year, the judges in their report of the pulper trials say: "There was considerable competition, and the trials in the pulper class especially were carefully watched. Two distinct principles were seen in the different machines, viz.: A barrel or cylinder, with knives on the surface, and spaces or opening through which the cut roots passed; and a disc carrying the cutters, the cut stuff passing through the openings on the face of the disc, the difference between the cutters and pulpers being simply the form of the knife. After a patient inquiry the judges were unanimously of opinion that the disc principle was right, especially in the case of pulpers, for several reasons. The centrifugal force in the barrel tends to throw the root away when it comes in contact, and to give it a rolling action; this adds to the work, and in the case of a pulper causes a portion of the juice to be squeezed out of the root, which is a great drawback. The judges took particular notice of the keeping properties of the mangold pulp as cut by different machines. In many instances when the barrel is used the change was rapid, the pulp turning quite dark after three or four hours, whilst in the best instance of disc cutting, it was fresh and little altered after 72 hours. That machine which cuts the mangold sufficiently fine with the least loss of juice must be the right machine, provided we get a fair amount of work done. The difference in the quantity of liquid produced during the experiments was very great. The plan adopted in the trials was to allow a given weight of roots, and in each case note the power consumed. To illustrate the difference in power required for working, I will mention that the barrel pulper of one exhibitor occupied 6 minutes, 35 seconds in cutting one hundred-weight of roots, with an expenditure in power of 31,840 lbs.; whilst the disc machine of the same maker, costing ten shillings less in price, did the one hundredweight of roots equally fine in 6 minutes, 20 seconds, with an expenditure of power consumed of 11,550 lbs., or about one third the power taken by barrel machine." There are also other advantages in the disc pulper over the barrel: one is that you may adjust the cutters as the points wear away; or you can set the cut coarser or finer as you require, also that when new cutters are required they can be easily replaced by a farm labourer much easier than changing a chaff-knife. The cost of the new cutters is but a few pence each. The term pulper is still retained, although the roots are not pulped but are cut fine; hence I think either grater or mincer would be a more appropriate name for the machines. Having thus disposed of the machine part of the subject, I will now proceed as to what are claimed as the merits of the pulping and mixing system. The principal are: It economises the roots, for after being pulped and mixed with the chaff either from thrashing or cut hay or straw, the whole is consumed without waste, the animals not being able to separate the chaff from the pulped roots, as is the case when the roots are merely sliced by the common cutter, neither do they waste the fodder, as when given without being cut. By economising roots they last longer into the season—a most important consideration on all large stock farms. Inferior hay or straw may be used. After being mixed with the pulp for about twelve hours fermentation, commences, and this soon renders the most mouldy hay palatable, and animals eat with avidity that which they would otherwise reject. This fermentation softens the straw, makes it more palatable, and puts it in a state to assimilate more readily with the other food. In this respect the pulper is of great value, particularly

upon corn farms, where large crops of straw are grown and where there is a limited average of pasture, as by its use the pastures may be grazed, the expensive process of haymaking reduced, and consequently an increased number of cattle kept. The masticatory process is materially abridged, and animals are enabled to fill themselves sooner and return to a state of repose, and digestion is easier. The condition of the animals is better, they are more free from disease than under any other system of feeding. Scouring is entirely avoided. There is a great saving in the consumption of hay. Mangold may with safety be used much earlier in the season if required. Steamed food is in a great measure rendered unnecessary, thereby saving coals as well as avoiding the somewhat objectionable smell and trouble of the steaming apparatus. Choking is an impossibility; the roots are entirely consumed, and no last pieces left in the feeding troughs. There are as well as these many other advantages to recommend the pulping and mixing systems. I will briefly quote some of them, with various methods adopted by users of pulpers for horses, bullocks, cows, sheep, and pigs. First horses. In feeding horses with pulped roots, proportions may be varied to suit the time of year, and the work they have to do. One gentleman tells me he has kept his horses in work through the winter by giving them pulped roots, with equal quantities of straw or corn chaff, allowing each horse a little hay and 28lbs. of corn-meal during the week, effecting a saving of half the corn and hay he had previously given. Another says he gives one bushel of pulped root to two bushels of straw-chaff, mixed fresh every day with half a peck of cracked beans, and a little hay for the night. Another gives 20lbs. of pulped root with plenty of chaff, two-thirds straw, one-third hay. Another says that horses do not require hay; the pulped mangold induces them to eat a quantity of chaff. He carries the pulp to the stable in a cask directly it is cut, and after mixing with the chaff and the corn the mangers are filled at night. The general report is—horses eat the mixture with avidity, it allays their thirst, and frequently prevents colic and inflammation, which often turns out fatally from the animals getting an excess of cold water on an empty stomach. Aged horses are kept in better condition on the mixture. Horses will not refuse dry food when feeding on pulped food, and the state of their health is much improved. Parsnips and carrots for horses are liked very much when pulped. Most agree that the pulped root is best for horses when fresh done, and all that a considerable saving in the corn takes place. Colts thrive well on the pulped mixture. For bullocks the method of the feeding varies. One says, "I take the two-and-a-half-year-old steers, I cut for them chaff about five-sixths straw, one-sixth hay, and sometimes nothing but straw. With this I give them about two pecks of pulped mangold per day during the early part of the winter, and as spring approaches increase the quantity until they get up to four pecks per day. I mix the pulped roots with the chaff upon the floor of the chaff-house, and use the food thus mixed before it ferments. The oilcake and other artificial food I give separately." Another writes: "I consider the pulped roots good for all live stock, more especially for those in which we suppose the digestive organs weakened from exposure or other causes. The proportions must vary in all cases according to the quantity and quality of the fodder, chaff, roots, &c., the farmer has in hand. I find in practice it is best to mix the roots immediately after pulping with chaff, throw the whole into a heap to allow the chaff to soak up the juices, and the whole mass to slightly ferment. In twenty-four hours it will be in the best condition to use, that is to say, mix up the quantity required for the day ensuing. I usually give the cake, corn, &c., apart from the mixture." Another says: "I fattened some bullocks last year with pulped mangold and cut clover, and mixed one day before giving it to the beasts, and then mixed bean and barley-meal with it at the time of feeding. I found them fat quicker than those fed on sliced mangold, hay, and meal." All agree that whether fattening or store stock, the animals thrive well on the mixture, are fond of it, keep healthy, get fat quicker, and are not so much trouble. For cows, pulping answers well. One large cowkeeper says: "I use pulp fresh every morning, making enough to last twenty-four hours. As it falls from the trough of the machine it is taken to two large boxes or troughs standing in the middle passage of the cow-house; in one it was mixed with cut hay, and in the other with cut straw. Cows giving milk had the former, dry cows the latter. The

orders of the cow man are to feed every animal according to its appetite, that is, to give it as much as it will eat up clean, five times in twenty-four hours, when they are housed night and day, also to proportion the pulp and cut stuff (hay and straw) according to the state of the dung of each beast; by attention to this latter order I find it is quite easy to prevent either scouring or the opposite. Milking and fattening beasts had two dry feeds out of the five, consisting of cut hay and meal only. I deem it much preferable to give beasts a little and often rather than very large feeds at a time, except when left for the night, when they get as much as their troughs will hold. I have no racks for uncut fodder for the cows. On this system all the stock was kept in fine health and condition, suitable to stores, milkers, or feeders, with, as near as I can judge, an economy of hay and roots; but particularly of the former, of about one-third, as compared with the old system of sliced roots and long hay, besides avoiding all risk of choking. My young stock are fed the same as the cows in milk, there being no danger of making them too fresh, as might be the case with the cows about to calve. I house my dairy stock from about 1st of November to 1st of May. The quantity and quality of milk they give on being turned out to their pasture at the latter date depends entirely upon their condition, and I have no hesitation in saying that no stock could possibly have been in better order than mine was in May, very far exceeding that of the majority of my neighbours, as evidenced by the quantity of curd to each cow, viz., four pounds per twenty-four hours, on a yield of eighteen quarts of milk per cow." Another farmer says: "As regards the use of the pulper for cattle generally, irrespective of age, my plan is to have a layer of cut chaff, consisting of three-parts hay and one of straw, and one bushel of pulped mangold or turnips, and to repeat the quantities until sufficient is obtained for next day's consumption, allowing it to remain about twelve hours to ferment. The stock are then fed on it thrice a day, with sufficient to satisfy them. Last winter I left off giving my dairy of cows the mixture, as previously named, substituting mangold sliced by a turnip cutter, and dry chaff. The result was a deficiency of above a pound of butter each cow. I then reverted to my previous plan, and I found they produced the same quantity as before." It is generally agreed by all who have tested it that the pulped mixture not only improves the quality of the milk, but it also does away with that unpleasant flavour of the turnips in butter, usually attempted to be got rid of by using saltpetre in the making. The improved milk also produces a better quality of both butter and cheese. Less mastication being needed, it is a great consideration in the case of young cattle casting their teeth and old ones who have but few. It is an old saying, that "the milk comes from the cow's mouth," so the pulping must be an advantage in saving the cows' front teeth, which must suffer from the chipping of the whole turnips; the dairy farmer cannot be too careful of this, so that when he has a good cow to keep her for a number of years. For calves, the mixture being of a soft nature suits their mouths, and they quickly take to it. Sheep: A greater number may be kept on the same occupation. In pulping the roots it is generally considered necessary to clean the roots well, to prevent scouring in sheep. Another gentleman says: "Having an unusually heavy crop of straw, and my turnips having partially failed, I resolved, as I wished to increase my stock of breeding ewes, on testing the pulping system, and try how far, by cutting up my wheat straw and by pulping my turnips, I might acquire the end I had in view. The system I pursued was of mixing about half turnip-pulp and half chaff the day before using. My expectations were fully realised; my former flock of ewes was from 80 to 90, and last year I kept on the same land 140 to 150, and at lambing time they were in as nice condition as I could wish, and were particularly healthy, having consumed no more turnips than my flock of 80 or 90 had done in previous years. Ewes will also suckle well on the food, and lambs will eat it much sooner than food otherwise prepared. Pigs:" "The methods for these are most simple. An extensive pig-breeder says: "I find great advantage in mixing the barley-meal with the roots when pulped. The manner I make use of the roots is this. First have them thoroughly cleaned and washed before pulping, then pulped and put in a large close bin or cistern, mixing a little barley-meal with it before it is given to the pigs. The allowance to each pig is one peck of barley-meal per week for the first three months, and as much mangold or

swede as they will eat. After that I increase the barley-meal gradually for the next three months up to two pecks per week for each pig. By such treatment I make many of them weigh from twenty to thirty-five stones each." Another gentleman who pursues the same method adds: "I prefer this plan to any other I have seen, and I reckon that pork can be made 15 per cent. cheaper than by meal alone; and the process of feeding being slower, it certainly gives a larger quantity of manure." Another says: "I consider pulping roots is better for fating pigs than anything else. My plan is to have a large two-hoghead vat as near the pulping-machine as possible, so as to fill it with a malt shovel as it comes from the machine; at the same time I keep a lad sprinkling meal (either barley or Indian-corn) with the roots, and this all done in fifteen to twenty minutes. It is then ready for use, to be carried to the pigs. I never could fat a pig with profit until I used pulped roots." Where potatoes are given to pigs they are boiled in less time if passed through the pulper. An experiment was tried in Essex by a gentleman who had 1,500 bushels of diseased potatoes. They were pulped up and put down in a shed, where the atmosphere was kept from them, and at the end of five months they were as good as at first. Fowls: Poultry are amazingly fond of the pulped food, they surround it and eat it greedily. Having thus gone through the various classes to show that pulped food is beneficial for every description of animal, I would here remark that some deal has both been written and said on the system of fermentation. If hay or straw is at all tainted, then fermentation will remove the objectionable taste. The time for the fermentation must depend on the state of the weather, position of the place for admitting air at the time. Straw by this method of feeding comes round into manure much quicker. Straw that has undergone the fermented storing plan may be mixed with the roots, and after laying sufficient time together to allow the straw becoming moistened, may be given to the animals with great advantage. If time permitted I could give the results of many experiments that have been carried out on farms. I will mention one. Two lots of year old cattle were fed, the one in the usual way—sliced turnips and straw *ad libitum*; the other with minced turnips, mixed with cut straw. The first lot consumed 8½ lbs. sliced turnips, 1 lb. oil-cake, 1 lb. rape-cake, and ½ lb. bean meal, broken small and mixed with a little salt and what straw they liked; the second lot ate daily 50 lbs. minced turnips, 1 lb. oil-cake, 1 lb. rape-cake, ½ lb. bean meal, and a little salt, the whole being mixed with double the bulk of cut straw or wheat chaff. In the spring the lot of cattle which had the mixed food were in as good condition, and equally well-grown as the others, though they had consumed in five months two tons less of roots a-piece. I will conclude with a quotation from the Prize Essay of Mr. William Little, published in the *Royal Agricultural Journal*, on the "Management of Cattle." He says: "We introduced the pulper in the autumn of the year. For the first season we only fed a part of our number of cattle with pulped turnips and cut chaff, to test the value of the system as against the usual plan of feeding with sliced roots. The result showed, firstly, a decided economy from the use of pulped food; and, secondly, that the cattle so fed were, if not better, at least equal in quality to those fed on the old plan. From actual experiment we find that by giving each beast 10 lbs. of cut straw mixed with the pulped roots, there is a saving of 21 lbs. of turnips per day on each animal. Two lots of eight each were set apart for the experiment. Those on sliced roots consumed on the average eight imperial stones per day, with 8 lbs. each of oat-straw out of the racks uncut. They had what they would eat of both. The other lot had a mixture of cut straw and pulped turnips, what they would eat, with oat-straw uncut, *ad libitum*, and consumed on the average 6½ stones of pulped roots, and 10 lbs. of cut straw, with 4½ lbs. long straw per day each beast. We now pulp for 63 cattle, and, estimating the saving of roots at 1½ stones each per day, we save about 4 tons 2 cwt. per week on the average, and above 106 tons during the half-year, equivalent to 3½ acres, at 30 tons per acre. Perhaps some might object, by a larger admixture of straw with the pulped roots, a far greater saving than that stated, without bias, as the result of our experience, and with which we are satisfied. Those who object to so considerable an admixture of straw should bear in mind that the stomach of the ox is fitted for a large amount of bulky food, not necessarily all of a very nutritious kind. This must be filled before

he lies down to ruminate contentedly. He can and will eat as much of rich food as of the comparatively innutritious sort, but not with an equally good effect. His system cannot assimilate more than a moderate quantity of the flesh or fat forming substances contained in rich food, and, consequently, it becomes overloaded and irritated so that scouring is produced, especially at the first. All who are acquainted with the feeding of cattle know that when first put upon turnips, as many as they can eat, they for a considerable time get worse in condition instead of improving. This is particularly the case with cattle low in condition, and could be entirely avoided by the judicious use of the pulper; besides, the argument for its use at first applies with no less force to its general adoption. Although the cattle with which we have to do are seldom low in condition, still we consider it a duty to economise as much as we can the available food for live stock as a means of increasing the number of our cattle, and, consequently, the supply of beef for the public. The demand for beef and mutton is not met by a corresponding supply, let us then welcome every implement which can help us either to grow more food or economise its consumption." I have compiled the following from various sources to show the amount of feeding matter, with the amounts of moisture and mineral substances contained in each food used on the farm:

100 lbs. weight of	Dry organic matter or real food.	Moisture.	Mineral matter.
Wheat straw contains	79 ...	18 ...	3
Barley straw.....	83½ ...	11 ...	5½
Oat straw.....	67½ ...	28½ ...	3½
Pea straw.....	82 ...	12 ...	6
Bean straw	75½ ...	14½ ...	9½
Rye straw.....	78½ ...	18½ ...	3
Clover straw	73 ...	21 ...	6
Ordinary hay	76½ ...	16 ...	7½
Mangold wurzel	10 ...	89 ...	1
Swedes	14 ...	85 ...	1
Turnips	10 ...	89 ...	1
Red beet	10 ...	89 ...	1
White Carrots	12 ...	87 ...	1
Potatoes	27 ...	72 ...	1
Linseed Cake	75½ ...	17½ ...	7
Peas	80½ ...	16 ...	3½
Beans	82½ ...	14 ...	3½
Barley meal	82½ ...	15½ ...	2
Oatmeal	89 ...	9 ...	2
Bran.....	81 ...	14 ...	5
Oats	79 ...	18 ...	3
Lentils	81 ...	16 ...	1

Mr. W. B. KENT said he had used an iron grist mill since they had first been brought out. Many were mistaken in using them, because they attempted to make them do the same work as stones.

The Rev. Mr. WOOD said he thought something was required to enable them to save the loss of juice, which was now found

in pulping the roots for beasts and also for pigs, but could not see the advantage in feeding pigs with pulped roots that Mr. Long had spoken of. He preferred using roots whole, with beans. At present the moisture was lost in various ways. He would not speak confidently as to feeding beasts, because his work had been on a very small scale.

Mr. W. B. KENT said he could not understand what kind of machine Mr. Wood had used. He had a loss of juice when he used the pulped roots with chaff. He had never experienced any loss worth speaking of in his practice.

Mr. CHARLES CAPON said he preferred slicers to pulpers for fat bullocks, where chaff was not so much used.

Mr. KENT said he was speaking of the whole of the stock on a farm, fat and lean. Pulped roots were certainly the best. He thought Mr. Wood's machine was probably one that jammed the roots.

Mr. LONG said the machine he alluded to would obviate this difficulty.

The Rev. O. REYNOLDS said Mr. Capon appeared to assume too much that a fatting bullock could not eat some straw with profit.

Mr. CAPON said he quite agreed that the richer food of a bullock ought to be mixed with chaff and poorer material.

Mr. WOOD suggested that the extra mastication which cut roots required might not make the food easier and better of digestion than when it was pulped and swallowed more easily.

Mr. JEAFFRESON said this point should be noticed—the mixture of the saliva with the food in mastication might be best. This was a point for practical men to settle by experiment.

Mr. KENT said he did not speak from his own experience alone, but had been persuaded to buy a Moody's Cutter. He was told by a friend that he should save the cost in a month. His friend used several of them.

Mr. CAPON said he could not agree that cut and pulped food would keep the stock in so good health as when they broke or chewed it themselves.

Mr. REYNOLDS said the argument as to the mixture of the saliva in the extra chewing was met in a measure in the case of beasts by the fact that the ox was ruminant, and chewed his food a second time.

The Rev. Mr. WOOD said that it still might be better for the beast to chew his food more the first time.

Mr. JEAFFRESON still contended that it was a question to be settled by experience. When told by the chemist that straw contained so much nutriment, it was necessary to find whether it was in such a form that the stock could use it profitably.

Mr. REYNOLDS said the increasing use of cut straw and pulped roots proved that practical men had solved this question to a great extent.

Mr. LONG said it should be remembered that straw contained forty per cent. of woody fibre, which was not digestible; if mixed with pulped roots this might be more easy for the stomach to deal with, his remarks applied to all the stock on the farm, and for all besides the fatting stock the pulping process would be beneficial.

A vote of thanks was passed to Mr. Long.

THE CENTRAL CHAMBER OF AGRICULTURE.

The monthly meeting of the Council was held on Tuesday, April 4, at the Salisbury Hotel, Sir Massey Lopes, M.P., the President, in the chair.

Among the preliminary business was the election of Lord de Tabley as a member of the Council.

Mr. A. PELL, M.P., said: At the meeting of the Northamptonshire Chamber, held about a fortnight before, the question of a change of the days for holding the Metropolitan market was mooted, and the result was that the following resolution was unanimously adopted: "That it is very desirable to alter the days of holding the Metropolitan live stock market from Monday to Tuesday, and from Thursday to Friday, and this Chamber solicits the assistance of the Central Chamber, and of the other Chambers of the country, for the attainment of this object." He moved that this resolution be referred to the Business Committee, with a view to its being placed in the agenda paper, if thought desirable, at an early meeting.

The motion was agreed to.

Mr. PELL, as chairman of the Committee on the Laws and Constitution and Laws Association of the Central Chamber, read the Report:—

In recommending amendments the endeavour of your Committee has been to render the Central Chamber more efficient in promoting the interests of its members, and, as far as practicable, to make it truly representative. With this view they have arrived at the unanimous opinion that the position of every Chamber associated should be regulated in proportion to the number of its members and to the amount of its contribution to the common fund of the whole associated body. To accomplish this your Committee consider the existing laws insufficient in the following respects: (1) The local Chambers are not represented under the existing laws in the general meetings of subscription members, which having the power of making or altering laws, places all local Chambers too much

under the control of the Central subscription members. (2) Practically, distance from London interferes with the equal representation and voting power of local Chambers, and places the more remote local Chambers in an unfavourable position. (3) There appears to be no provision in the existing laws to preclude a few individuals (provided a sum of £3 is contributed) from claiming the same rights and privileges of representation as are afforded to more important Chambers. While your Committee are impressed with the importance of obtaining the support of those connected with agriculture, they have been at the same time sensible of the difficulties in associating the more distant Chambers under the existing laws, which require the presence of several deputies, and consequent large expenses in travelling to enable them to exercise their full right of voting at the Central meeting. Your Committee therefore recommend that the total votes of any associated Chamber may be given by proxy, and by one deputy if desired. Your Committee are of opinion it is essential that information should be obtained of the strength and position of every Chamber associated, in order that the influence of the Central Chamber, representing the agricultural interest, may from time to time be correctly ascertained. Great difficulty has hitherto been experienced in procuring the requisite particulars from the local Chambers, and your Committee recommend a provision by the laws for obtaining this information. Your Committee are unanimous in opinion that the present Business Committee is somewhat unsatisfactory. It has been suggested that every associated Chamber should be represented thereon; but your Committee believe that this would simply aggravate an evil already complained of, inasmuch as the numbers in Committee would thus be larger in proportion to the Council, and, consequently more prejudicial to those who, as a rule, could only attend the morning Council meetings. Your Committee therefore recommend: (1) That a standing business committee be appointed to prepare the business for the Council and general meetings. (2) That the number of its members shall not be more than nine. (3) Your Committee are decidedly of opinion that the preparation of the business would be best done by a small committee, and they recommend that the members of such should be carefully chosen, so as to represent as far as possible the Central and every Chamber associated. For this purpose they suggest that a list of names should be made, consisting of one of the deputed members of every associated Chamber and eight of the elected members of Council, and that from among these the members of the business committee shall be chosen. In introducing several new laws, your committee have found it necessary to make a rearrangement of the old laws in order to embody the whole in a code suitable for the government of the future association; this revised constitution, your committee herewith submit for your consideration. It will be observed that it contains forty-three in place of twenty-three laws. The object of most of the new laws requires no explanation; the principles involved are: 1. The admission of deputed members of the Council who are appointed for the current year, as members of the Chamber in general meeting. 2. The regulation of the voting power of associated Chambers in proportion to number of members and to the amount of annual contribution to the Central Chamber. 3. Voting by proxy. 4. Limitation of deputies to three. 5. Limitation of the numbers of members of Business Committee, and the mode of their appointment. Your Committee, in conclusion, submit the accompanying constitution and laws of association for the approval and adoption of the Central Chamber of Agriculture, believing that what has been accomplished is the result of long and earnest deliberation, and being sensible that the desire which has manifested itself to promote the greater influence and efficiency of the Chambers of Agriculture, has led your committee to the decision they have arrived at. Agreed to April 3rd, 1871.

"ALBERT PELL, Chairman for Committee."

The following are the chief rules; the remainder embodying a deal of merely formal matter:

8. The Central Chamber of Agriculture shall be constituted of members elected by itself, and of annual deputies, whose names and addresses have been forwarded.

6. The Standing Business Committee for general purposes shall be executive, acting in accordance with, and subject to, the resolutions of the Council.

14. At General Meetings of the Central Chamber, members of the Legislature and members of Associated Chambers, who are not deputed, may be present, and may speak by permission of the Chair, but shall not have power to vote.

15. The business of the Central Chamber shall be managed by a board, called the Council, which shall consist of deputed members, and of twenty-four members chosen out of and by the general body of elected Members of the Central Chamber, eight of whom shall be elected at the annual meeting in the place of eight who retire by rotation but are eligible for re-election.

17.—Each Associated Chamber shall be entitled to appoint one deputed member of the Council for every fifty members comprised in such Associated Chamber, provided that such Chamber shall have contributed to the Central Chamber funds for the current year a sum equal to £3 for each deputed member; but no Chamber shall be entitled to appoint more than three "deputed members," one of whom, at least, must be an Annual Deputy.

24.—The present members of the Council (not being deputed members) attending any meeting of the Council, shall have a second-class railway fare from and to their nearest station allowed out of the funds of the Central Chamber; but members elected after November, 1871, shall not be entitled to such payment.

27.—The Council shall appoint annually a Standing Committee for General Business, which shall meet previous to every Council Meeting, and as often as it may see fit, and which shall prepare resolutions and arrange all matters requiring the consideration of the Council or General Meeting; such committee to consist of the Chairman, the Vice-Chairman, and not more than seven other members of the Council; three to form a quorum.

31.—All members of the Central Chamber, whether elected members or annual deputies, shall have one vote each in all meetings of the Chamber in *General Meeting*.

Mr. PELL having moved that the Report be received, printed, and circulated among the provincial Chambers, together with the proposed rules,

Mr. NEILD inquired whether the report was adopted by the Committee unanimously.

Mr. PELL said he did not know whether he was bound to answer that question, adding that it was of course adopted by a majority, and that it was signed by himself on behalf of the Committee.

Mr. C. S. READ, M.P., having seconded the motion,

Mr. NEILD said he believed that one of the cardinal rules in the revised code would not be acceptable, particularly to the practical tenant-farmers who composed that association; and he thought the Central Chamber would incur a considerable and an unpleasant responsibility if, when the report went forth to the Local Chambers, that matter were not properly understood by them. He would at once say that, in his opinion, Rule 14 would not be assented to unless the last thirteen words were erased.

The CHAIRMAN observed that all that was proposed at present was that the report should be received, printed, and circulated. If that motion were adopted, the Local Chambers would all have an opportunity of discussing the matter; and when they had expressed their views, the Council could express its own.

Mr. PELL had no objection to withdraw the word "unanimously," as the Council were not unanimous on every point.

Mr. MUNTZ observed that only one member of the Committee objected to any of the new rules.

The resolution was then agreed to, with the omission of the word "unanimous."

The CHAIRMAN read the Report of the Local Taxation Committee:—

Your Committee regret that the bill promised by the Government has not yet made its appearance, but the President of the Poor Law Board is expected to lay it upon the table of the House of Commons at a morning sitting this day. Your Committee will at once proceed carefully to examine its provisions, and would recommend the provincial Chambers as early as possible to call their members together for the purpose of discussing the principles contained in the bill, and would further suggest that the meeting of the Central Chamber in May should be devoted to the consideration of this subject, as being one of paramount necessity and importance. Your Committee

would beg to call attention to a recent return (No. 437) issued by the Poor Law Board, which professes to compare rates levied in rural unions with those levied in urban unions. Your Committee consider it delusive and most fallacious, that it is calculated to mislead and give false impressions, and, if the Government measure be drawn up on the statements and figures therein contained, your Committee are of opinion that it will be founded upon false premises. In this return those rates which are purely local and those which are national in their objects are confused together. Rates levied under local improvement Acts for paving and lighting, for burial boards, baths and washhouses, are exclusively local requirements, and the substitutes for these in rural districts are provided from private sources. The rates in the town unions are thus swelled to 4s. in the pound, whilst in the rural unions they are shown as 2s. 9½d. Your Chairman pointed out this error to the Secretary to the Poor-Law Board, who has promised to furnish a separate and more correct return, from which it will appear that the rate in the pound levied for all purposes of the poor-rate assessment for 1868 and 1869 is 2s. 0½d. in the rural unions instead of 2s. 9½d., whilst in the town unions it is 2s. 6d. instead of 4s. The general average being 2s. 3d. instead of 3s. 4d. For relief of the poor only the rate is 1s. 5½d. in the pound for rural unions, and 1s. 7½d. for town unions. Independently of this, the greater part of the highway rate levied separately by poor-rate assessment from rural districts amounts to £917,000, which would very materially increase the rates levied in rural districts. Your Committee can hardly suppose that this return has been designedly rendered so delusive; but it seems to indicate a most unmistakable animus and bias. Your Committee have reason to believe that their representations have caused the withdrawal from the Coroners' Bill of the clause which provided that superannuation allowances should be paid out of the rates. The Committee would also direct attention to clause 9 of the Pauper Inmates' Discharge and Regulation Bill, which directs boards of guardians to provide proper casual wards, and should they fail to do so they will not be entitled to repayment from parliamentary grants. Your Committee will continue strenuously to oppose, both in the House of Commons and elsewhere, any attempts to throw increased burdens upon the rates. Your Committee are glad to be able to report that they have added greatly to their number during the past month, no less than twenty-four members of the Legislature having promised to give the benefit of their advice and assistance. It is an encouraging fact that the movement to obtain a reform in the existing system is evidently gaining ground, especially in the towns. Several large and influential meetings have been held in the metropolis during the past month, which were spontaneous on the part of the ratepayers, thus indicating the very general and increasing interest which they feel in this important subject.

Professor W. BUND, in moving the adoption of this Report, alluded to a Government Report, recently published, which was, he observed, the basis of the measure on Local Taxation introduced by Mr. Goschen into the House of Commons on the previous evening. The speech of the right hon. gentleman abounded, he said, with fallacies, and were based on a misconception of what agriculturists wanted. He spoke in the most learned and lucid manner of the taxation of the land of this country, as compared with the taxation of the land of other countries. That had nothing to do with the question (Hear, hear). What did it matter to them what taxes were paid in Belgium, France, or Germany? Again, the right hon. gentleman stated, that while local taxation had increased from £8,000,000 to £16,000,000 within a given period, the greater proportion of the increase had fallen upon towns; and he entered into a sort of historical retrospect, the object of which appeared to be to show that the increase in highway rates and county rates was insignificant compared with that in poor rates. As last year the Government intended to satisfy them by creating a division between landlord and tenant, so now the object seemed to be to relieve the towns at the expense of the country. Let them not fall into that snare. Let them remain united, and not be contented with any shuffling of the cards like that proposed by Mr. Goschen (cheers).

Mr. HORLEY seconded the resolution.

The CHAIRMAN observed that after the statement of the previous night there could be no hope of the recommendations of the Sanitary Commission being carried out,

The motion was then adopted.

Mr. C. S. READ, M.P., moved: "That after the conclusion of the business of to-day, this Council Meeting stand adjourned to Thursday, April 20th." The hon. member explained that his object was that a report from the Local Taxation Committee relating to the two Government Bills might be prepared between that time and the 20th, and said he hoped that report would point out the shortcomings of those bills, so that there might be something like uniformity in the discussions of the local chambers on the subject between the 20th of April and the monthly meeting of the Council in the beginning of May.

Mr. GENGGE ANDREWS, in seconding the resolution, said the scheme shadowed out in Mr. Goschen's speech seemed to be of a very peculiar character. It was the old story of the play of Hamlet with the principal character omitted (Hear, hear). No one could object to an adjournment of that meeting to the 20th instant, but he thought they might that morning discuss the matters embraced in Mr. Goschen's speech to some extent. (Cries of "No, no"). He feared that the entire postponement of discussion would place the provincial chambers in such a position that they would not be able to discuss the subject before the Council Meeting in May. There was very little business before that meeting, and he was for discussing that important question then.

Mr. R. H. MASEN inquired what was the earliest day on which the decision of the Council could be made known.

The CHAIRMAN saw no reason why it should not be forwarded to the provincial chambers on the 21st instant.

Mr. MARTIN having urged the necessity of obtaining a copy of the Government bills as early as possible,

Mr. C. S. READ, M.P., observed that he had put down his own name in the Speaker's book for twenty-five copies, and that he had left a directed wrapper at Hansards', and had no doubt they would all be forwarded to the Norfolk Chamber on the day that the printing was completed, adding that other members of the House of Commons might be asked to pursue a similar course.

Mr. PELL remarked that No. 32, Abingdon-street, Westminster, was the office for the sale of all Parliamentary papers, and the bills could be got there without any difficulty.

The resolution was passed, with the following addition: "And that it be a recommendation to the provincial chambers that they meet together between the 21st of April and the 2nd of May."

Mr. NEILD moved, "That the May council meeting shall extend over two days, and that the Government Local Taxation measure shall be the first subject then considered." As regarded Mr. Goschen's speech, he agreed with a preceding speaker that it was an attempt to divide town and country, and he hoped the matter would be presented to the local chambers in a manner which would carry with it the weight due to the Central Chamber, which had earned for itself an historical reputation in reference to that question (Hear, hear).

Mr. MUNTZ, in seconding the resolution, said he felt that to be an important crisis in the history of the Chamber, and he hoped the meeting in May would be numerously attended.

Mr. MORE said there seemed to be a general wish that there should be a dinner connected with the council meeting in May, and that some leading members of both Houses connected with the agricultural interest should be invited to attend.

A discussion ensued with regard to this suggestion, which resulted in the determination to have a dinner on a large scale on the first of the two days appointed for the May discussion, and a dinner committee was appointed to make the necessary arrangements, consisting of the chairman, vice-chairman, Mr. More, Mr. Horley, and Mr. Willson, with power to add to their number. In the course of the discussion it was announced, as the result of inquiries of the manager, that the dinner could not possibly take place at the Salisbury Hotel, and the committee had therefore to select some other suitable place.

Mr. HODSOLV, adverting to the question introduced by Mr. Neild, said he felt sure that the Government measure would be received by the Local Chambers with feelings of disgust. He could not conceive how Mr. Goschen, sitting as he did on the Liberal side of the House, could have insulted the county constituencies by introducing such a measure—a measure which did not in the least touch the question that had been discussed there. As a Liberal in politics, he felt greatly disappointed at such conduct on the part of a Liberal Government. Not only was the measure not a settlement—it was

nothing like an approach to a settlement of that great question.

The resolution was then agreed to.

The next business on the agenda paper being The Mode of Assessing to Property and Income Tax,

Mr. RUSSON moved the following: "That this Chamber considers the power conferred on the Surveyor of assessing property and income tax under Schedules A and B and the house duty are generally exercised in an arbitrary and unjust manner, and gives surveyors of taxes inducements and facilities for making most excessive surcharges, for which there are no reasonable grounds, thereby causing unnecessary inconvenience and annoyance to many persons by obliging them to appeal against the assessment." There was a very strong feeling in the Worcestershire Chamber, which he represented, on that subject, and it had passed the following resolution: "That this Council considers that the mode of assessing the property and income tax is very unfair to many parties who make a true and just return, and that in cases where persons are charged in excess, without any reasonable cause, the expense of appealing should be borne by the person making the charge." Many persons were, he knew, in favour of Government officials being employed to collect the income-tax as well as other taxes. Whatever difference of opinion there might be on that point, no one could doubt the utter uselessness of the assessor, who was in fact a mere dummy so far as any actual duties were concerned, the surveyor being the person with whom everything rested. It was bad enough to have to pay income-tax at any time, but to be compelled to pay it when there were no profits, as had been the case with many farmers for the last two or three years, was quite intolerable. The people of Worcestershire were so incensed at official tyranny that they had got into a white heat of indignation, and were determined to do all in their power to obtain a mitigation of the present evils.

Mr. HODSOLL, in seconding the motion, said that very year a tenant of his had been the victim of the system complained of in the resolution. That man had had his assessment raised two or three times, and felt what had been done to be a gross injustice, but his business engagements were such that he could not find time to appeal. He (Mr. Hodsoll) had been subjected to two valuations of his land, and of course to two rises in the assessments. He was now charged up to the very top of his rental, and that, too, at a time when the local rates amounted to 3s. 9d. in the pound.

Mr. MUNTZ said the Warwickshire member had passed a resolution exactly like that of the Worcestershire Chamber which had been submitted to the meeting, and the fact that two Chambers which were entirely unconnected having arrived at the same conclusion showed the justice of the complaint.

A MEMBER said that he was an assessor in his district, and there finding that they could not raise Schedule A without raising Schedule B they raised both (laughter).

Mr. DRING remarked that if an occupier were dissatisfied with an assessment it was always open to him to have a re-valuation.

Mr. READ: Who pays for the valuation of a farm?

Mr. DRING believed that if it were not something like what the Commissioners had estimated the Government would have to pay for it.

Mr. READ: Did Mr. Dring ever know the Government pay any expense? (laughter).

Mr. NEILD said he could speak feelingly on that subject, having had his assessment raised six times over in 13 years. He had twice begun to appeal, but stopped on the threshold on account of the expense.

Mr. DUCKHAM said from the tenour of Mr. Goschen's speech on the previous night it appeared to him that they were on the eve of a great change in the system of rating; and there could be no doubt that the present system was most unsatisfactory, a different mode being adopted in almost every union. In talking so much about valuation members were, he thought, occupying the time of the Chamber unnecessarily, knowing as they must do that the surveyor of taxes had for his object to obtain promotion as soon as possible. He thought the resolution of the Worcestershire Chamber went far to meet the case by debiting surveyors with the cost of fresh assessments when made without reasonable cause.

Mr. PELL, M.P., did not think they could complain of the manner in which the farmer's profits were assessed, but they might well complain of the practice generally followed by surveyors of raising the assessment every third year with-

out considering whether or not there was anything in the condition of the farm, or the circumstances of the case, to justify that, and thus exposing the tenant to the inconvenience of appealing, or the necessity of submission. He had just come to the end of a lease of 21 years in the county in which he lived. Every third year his assessment had been raised, and he had received notice that he was to be assessed at above half the rent; on every occasion he was enabled to defeat the surveyor, but still he was put to great inconvenience.

Mr. BIDDLE said he had been an assessor of Income-tax for 18 years, and had had the good fortune to be connected with surveyors who were business-like men, and acted fairly; but in a neighbouring town, a surveyor had been an objector and also the judge, as regarded his own objection. The promotion of a surveyor depended, in a great degree, upon his screwing as much more money out of a district than had been obtained previously, and that fact accounted for a good deal of what was done.

After a few remarks from Mr. Russon, in reply, the resolution was adopted.

Mr. HODSOLL moved the following resolution: "That the speech of Mr. Goschen shadowing out the ministerial measures on local taxation indicates no intention to include in the poor-rate assessment incomes arising from personal property, and must therefore prove entirely unsatisfactory. That this Chamber strongly recommends the local Chambers to consider whether they should not endeavour to present a requisition to the High Sheriff of their respective counties for the holding of a county meeting for the purpose of expressing assent to or dissent from the Government proposals."

Prof. BUND seconded the motion.

Mr. PELL, M.P., said they were asked to take proceedings on a very imperfect report of Mr. Goschen's speech, and he thought it would be better to postpone action for a short time.

Mr. MUNTZ felt that the Local Taxation Committee ought to be left perfectly free in its action in the matter.

Mr. RUSSON concurred in this view.

Mr. GENG ANDREWS urged that if the holding of county meetings were not recommended at once, there would not be time to get up requisitions until it was too late.

Mr. KERSEY also advocated immediate action.

Mr. WALKER (Notts) thought that no measure could be satisfactory which did not make all the wealth of England contribute to the support of the poor.

Col. WILSON observed that there was great difference of opinion with regard to the desirableness of assessing of personal property to the poor rate. In his judgment it would be far better to refer the whole matter to the Local Taxation Committee.

The CHAIRMAN said he should much prefer a recommendation like that just proposed, if made at all, emanating from the Central Chamber.

After some further discussion, on an amendment of Mr. Pell, Mr. Hodsoll's proposal was negatived by 10 votes to 9, and the matter referred to the Local Taxation Committee, the precise form of what was adopted being as follows: "That the resolution be withdrawn and referred to the Local Taxation Committee, who shall be requested to report on the 20th of this month."

The meeting then proceeded to consider the various game bills before Parliament.

Mr. R. H. MASFEN moved the following: "That no one of the Bills introduced into Parliament in the present session is sufficient for the purpose of curing the evil of the over-preservation of ground-game; but that an Act embodying the principles of the third clause of Mr. MacLagan's Bill and the fourth clause of Mr. Loch's Bill would be deemed satisfactory by this Council." He said he had taken a survey of the five Bills now before Parliament, namely, Mr. Taylor's, Mr. MacLagan's, Mr. Loch's, Mr. Hardcastle's, and the Lord Advocate's, and he believed something good was to be found in each of them. As regarded Mr. Taylor's, what had struck him most was its terseness; it did away with the game laws altogether, and he should be sorry to see that Bill carried out. The occupiers of land had no wish to see their landlords deprived of fair and legitimate sport. They must, he thought, look more to public opinion than to anything else to get rid of what was in some districts a great nuisance—the over-preservation of game; but, public opinion being tardy in its operation, the voice of the country

demanded a Game-bill at the hands of the Legislature; and it was for that Chamber to set forth its views as to the best means of dealing with that difficult and disagreeable subject. He thought the resolution prepared by the Business Committee on the previous night, and now before the meeting, pointed to what promised to afford the best remedy for the evil; he meant two provisions contained in the Bills of Mr. MacLagan and Mr. Loch. They had little to fear from winged game, and as regarded ground game, those who bred and fed it had a right to expect to be placed on an equal footing with their landlords. He considered it the duty of that Chamber, connected as it was with the landed proprietary of the country, to endeavour to secure a satisfactory settlement of the question. None of them desired what would cause an estrangement between owners and occupiers; but all must feel a wholesome solution of the question to be extremely desirable. The following were the clauses in the Bills of Mr. MacLagan and Mr. Loch to which the resolution related: "From and after the passing of this Act hares and rabbits shall not be deemed to be game within the meaning of the Game-laws, nor shall any of the provisions of those laws apply to the taking, killing, or destroying of hares and rabbits." "It shall not be lawful for any lessor and tenant or any lessee of shootings and tenant after the passing of this Act by any lease or agreement between them respectively, verbal or written, or otherwise, to divest or deprive such tenant of the power to kill and take hares and rabbits by this Act conferred on him or to restrict him in the exercise of that power; and any lease or agreement entered into or made in contravention of, this section shall be void, and of no force or effect."

Mr. NEILD, in seconding the resolution, observed that the question of game or the Game-laws had always seemed to him rather a weak point in the Central Chamber, and it was necessary that farmers should speak out plainly as to what they wanted. The resolution and the two clauses which had just been read from the Bills of MacLagan and Mr. Loch were identical with the sentiments expressed by the Central Chamber of Scotland, and the fact that two such important associations were agreed could hardly fail to have great weight with the Legislature.

Mr. TURNER thought their great hope must lie in bringing a wholesome public opinion to bear upon the matter.

Mr. KERSEY thought the question lay in a nutshell. Had a man a right to do what he liked with his own? (Cries of "No, no"). Every landlord could make a bargain with his tenant if he liked; he would always find parties ready to hire his land on his own conditions. To interfere with the under-letting of land for game-preserving would be to interfere with private property.

Mr. C. S. READ, M.P.: The last speaker has asked whether a man can do what he likes with his own? I have said before, and I say again, that he cannot. The law of England is, I believe, founded on the good old maxim of the Roman law, "So use your own rights as not to injure those of another" (cheers). As long as a man keeps his land in his own hands he can do what he likes with it; but when he wishes to let it to another, the Legislature may surely step in and say what he may do and what he shall not do (not if he makes a bad bargain). Let me tell Mr. Kersey, who, I know, comes from a game-preserving district, that the Legislature constantly interferes with contracts. If, in the case of an agreement, you have not a proper seal, a proper stamp, a proper registration, or proper witnesses, the contract is null and void. The courts of common law frequently set aside a contract on some such ground as that its enforcement would tend to injure the public health, or the public revenue; while the courts of equity have frequently refused to ratify a contract in itself perfectly innocent on the ground that similar contracts might be prejudicial to the public interest (Hear, hear). The court of Chancery is particularly jealous of exceptional privileges being possessed by people occupying responsible and influential positions, such as trustees, executors, solicitors, and doctors. If a needy land-owner is compelled to raise money by a mortgage on his estate, however hard the money lender's bargain may be, the borrower cannot be deprived of the equity of redemption, and by offering the principal and the interest he can get rid of the debt whenever he likes. I will go a little further, and say that many contracts are controlled by Acts of Parliament in cases in which one of the parties is supposed to be placed at a disadvantage. Take the case of the conveyance of goods by railway. Railway

companies are supposed to monopolize transit; but if they make contracts which are not reasonable, those contracts may be upset in a court of law. The monopoly of railway companies with regard to transit resembles that of landowners with regard to land, the only difference being that, while the former have a monopoly of the carrying power, the latter have a monopoly in relation to the living of the farmer (Hear, hear). In the case of parent and child, master and servant, solicitor and client, guardian and ward, cabman and traveller, mortgagee and mortgagor, buyer and seller, consignee and consignor, railway companies and the public—in all these cases Parliament interferes, and therefore I say it is a mere bugbear to talk of the dreadful consequences which must result from interference of contract between landlord and tenant with regard to game. Let me come closer home with regard to what has been done in the way of interference already. Parliament does interfere between landlord and tenant (Hear, hear). Since I became a farmer I have signed an agreement to the effect that all rates and taxes that had been imposed, or might be imposed, should be paid by me. Parliament passed a law declaring that such a contract should be null and void; it said that I should not pay the property-tax under Schedule A, and that no agreement to that effect should be valid. Another case of interference is the provision about to be enacted that half the amount of certain rates shall be paid by the landlord.

Mr. BIDDLE: Are such laws good?

Mr. READ: I think they are very beneficial. When two people meet together to enter into a contract they should be on an equal footing, and no one can say that a farmer, however intelligent he may be, or however independent in other matters, when he wants to hire a farm meets the landlord on fair terms (Hear, hear).

Mr. BIDDLE: Tell me why.

Mr. READ: Because the landlord has the monopoly of the land—because in all probability in that farm for which he is treating lies the farmer's living, and if he goes away from it he will find it extremely difficult to get a living in any other locality or in any other profession. I don't want to go into the exceptional case of the Land Bill passed for Ireland last year; but in that instance a few bad landlords in Ireland brought down upon the whole of the landlords certain objectionable legislation, and I believe that if the landlords of this country go on preserving ground game as they have done there will be no alternative but to sweep away the whole of the Game-laws. This Chamber passed a very mild resolution on this subject in 1869. It then said that the over-preservation of game is an unmitigated evil. I proposed the insertion of the word "unmitigated," and it was adopted. The next year we went a little further, and said that hares and rabbits should be excluded from the game-list; then every man's hand would be against them but the tenants. I think we should now go a little further still, and say that there should be a joint right as between landlords and tenants of killing these four-footed vermin on the farm. It may be asked whether the law does not give the tenant a right to the game, and whether by what I suggest he would not be giving back part of what he possesses. The law does give him a right formally, but practically it is all given back, and therefore I want him to have half and to stick to that half (Hear, hear). If I am asked whether I would not allow the landlord to divest himself of his right to half, I reply "No." I have known a few instances in which the landlord, having given the tenant the whole of the game, the result has been that the tenant, being a sporting man, has taken to preserving hares and rabbits, and they have not only destroyed the underwood belonging to the landlord, but have actually killed half the growing trees. What I advocate would prevent that, and I think the effect would then be that hares and rabbits would only be preserved in moderation (cheers).

Mr. GENGÉ ANDREWS observed that Mr. Read's speech went to show the omnipotence of Parliament, but the real question was whether such an alteration of the law as was proposed would secure the object in view (Hear, hear). Parliament might pass laws limiting contracts, but it could not enforce laws which were impracticable and might be evaded. It was impossible to show that landlords had a monopoly of land. Land was as freely bought and sold as apples (loud cries of "No, no"). There was no more monopoly in the

case of land than in that of fish, and a landlord would find some means of evading any law that might be passed to restrain him as to what he should do with his estate. It was an essential part of the first principles of civilization that every man should have control over his property.

Mr. MASFEN, in reply, denied that any man could do as he pleased with his property. He might use but not abuse it; and the object of Game-bills should be to protect the weak against the strong.

Mr. PELL, M.P., considered the damage done by game coming from land occupied by a third party a very serious question, and he did not see how it was to be dealt with, unless game were made property. At present game was *feræ naturæ*, the property of no one; and, therefore, in theory any one had a right to destroy it, and they must beware of suggesting any form of legislation which would make hares and rabbits like ordinary property. He did not think that they were entitled to the protection they now received under the authority of legislature, considering the altered condition of England and the improved state of cultivation and the injury which such animals must inflict on the cultivator. On the other hand, if a landlord enclosed land in which hares and rabbits were preserved, he was as much entitled to protection as the owner of sheep, which were kept in a fold (Hear, hear); and there were large game enclosures in his own county, which were entirely surrounded by a high wall. He hoped they would not mix up the question of tres-

pass with that of the Game Laws, or seek to have the two placed in the same code. The bulk of the enactment in the Game Laws at present were directed against trespass in pursuit of game, and to repeal one law of trespass and put another in its place, could not do much good (Hear, hear). The law of trespass required to be treated with great delicacy, lest the Legislature should interfere too much with fox-hunting, and with the enjoyment of a pleasant walk; and he must say that he should be sorry to see too much power placed in the hands of a sour-tempered captious person, who would put an end, if he could, to all the pleasures of his neighbours (Hear, hear).

Mr. BIDDELL said he lived about eight miles from two towns, and but for the law of trespass would be pestered out of his life every holiday. Before hares and rabbits were struck out of the game list he would like to obtain some protection against a nuisance which was quite as bad as they were.

Mr. READ, M.P., moved as an addendum to the resolution the words "with some modification of the law of trespass."

Mr. RUSSON seconded the amendment.

The clauses of Mr. M'Lagan's and Mr. Loah's Bills referred to in the resolution were appended to it, after which the resolution was adopted, with the addition proposed by Mr. Read.

The Council then adjourned, the sitting having lasted upwards of three hours.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL: Wednesday, April 5.—Present: Lord Vernon, President, in the chair; Viscount Bridport, Lord Chesham, Lord Tredegar, Sir A. K. Macdonald, Bart.; Mr. Barnett, Mr. Booth, Mr. Cantrell, Colonel Challoner, Mr. Davies, Mr. Druce, Mr. Edmonds, Mr. Brandreth Gibbs, Mr. Hornsby, Mr. Hoskyns, M.P.; Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Ransome, Mr. Ridley, M.P.; Mr. Stone, Mr. Torr, Mr. Turner, Mr. Wells, M.P.; Mr. W. Whitehead, Colonel Wilson, Mr. Jacob Wilson, Professor Simonds, and Professor Voelcker.

The following new members were elected:

Averall, Charles, Jun., Pyrehill Stone, Staffordshire.
 Awcock, Henry, Oxen Heath, Tunbridge.
 Beck, Francis Henry, Albrighton, Shifnal.
 Becroft, Charles, Lowdham Lodge Farm, Nottingham.
 Beeston, William, Kidderminster.
 Boulton, John, Bowling Green Farm, Shifnal.
 Bowman, John B., Sandcroft Farm, Hawarden, Chester.
 Byrd, David, Milford, Stafford.
 Casson, Joseph, Burghby Sands, Carlisle.
 Clark, Charles Frederick, Perton Grove, Wolverhampton.
 Clay, John, Kinsull, Oswestry.
 Clewes, Robert Thomas, The Woodlands, Weston, Shifnal.
 Crane, Joseph Calcott, Shrewsbury.
 Critchley, Walter, Salwick Hall, Preston.
 Crowdy, George Frederick, Faringdon, Berks.
 Dalzell, Anthony, Stainburn Hall, Workington.
 Davies, Lewis Thomas, Llyncubing, Llanpumpaint, Carmarthen.
 Davis, Peter, Rickmarsh Hall, Alcester.
 Dean, James, Brereton, Rugeley, Stafford.
 Dodd, Henry, The Hall, Rotherfield, Tunbridge Wells.
 Dowdeswell, Benjamin, Castle Eaton, Fairford.
 Edwards, Edwin, Brockton Grange, Shifnal.
 Forsyth, James, Wolverhampton.
 Gelthorpe, Thomas, Morton Manor, Newark.
 Gutteridge, Charles, Assendon, Henley-on-Thames.
 Hare, Theodore Julius, Crooke Hall, Chorley.
 Heatley, Thomas, The Meadleys, Pattingham, Wolverhampton.
 Hensman, H. D., Duston Lodge, Northampton.
 Hibbit, A. W. W., Penkridge, Stafford.
 Hildyard, Thomas B. W., Horeley, Eastgate, Durham.

Hulme, Thomas, Dunwood Lodge, Endon, Stoke-on-Trent.
 King, William, Denham, Uxbridge.
 Lea, John, Mackley Farm, Sudbury, Derby.
 Littler, Jas. B., Copethorne, Audlem, Cheshire.
 Lloyd, Joseph, St. Asaph, Flint.
 Lowe, Robert H., 15, Clarendon-street, Nottingham.
 Lythall, Frederick, Spital Farm, Banbury.
 Mather, M. Edward, Glyn Abbot, Holywell.
 Matthews, Charles, Salopian Works, Cleveland Road, Wolverhampton.
 Moffat, James, Kirklington Park, Carlisle.
 Moxon, Thomas D., Easenhall, Rugby.
 Nall, Joseph, Hoveringham, Nottingham.
 Norman, William, Hall Bank, Aspatia.
 Ogilvie, J. D., Mardon, Coldstream.
 Paget, Richard, Cranmore Hall, Shepton Mallet.
 Paulson, Fredk. Wm., Broomhill Grange, Ollerton.
 Picken, William, Hilton, Newport, Salop.
 Pursell, Robert Rushton, Oxley, Wolverhampton.
 Robson, Samuel, jun., Melbourne, Derbyshire.
 Sankey, Elizabeth, Bratton Farm, Wellington, Salop.
 Smith, Thomas C., Admaston, Rugby.
 Southwell, Charles F., Albion Ironworks, Rugeley.
 Spence, Charles, Little Holt Farm, Bridgnorth.
 Spencer, John, 69, King William Street, London, E.C.
 Thompson, John, King's Newton, Derby.
 Van Allen, J. J., Long's Hotel, Bond Street.
 Walsingham, Lord, Merton Hall, Thetford.
 Wight, C. Boycot, Budge Hall, Wolverhampton.
 Wyley, W. John, Admaston, Wellington.

FINANCES.—Major-General Lord Bridport (chairman) presented the report, from which it appeared that the secretary's receipts during the past month had been duly examined by the committee, and by Messrs. Quilter, Ball, and Co., the Society's accountants, and found correct. The balance in the hands of the bankers on March 31 was £1,892 12s. 8d., and £2,000 remain on deposit. The quarterly statement of subscriptions and arrears to March 31, and the quarterly cash account, were laid on the table; the amount of arrears being £823.

The committee recommended that the name of Viscount Bridport, as a trustee, be substituted for that of Mr. Bramston, in whose name, in conjunction with the

Earl of Powis and Lord Portman, the reserve show fund is now invested.—This report was adopted.

JOURNAL.—Mr. Milward reported that 23 arable farms and four dairy farms have been entered to compete for the prizes offered for the best-managed farms in the two counties of Shropshire and Staffordshire; and he stated the recommendation of the committee in reference to judges and a reporter. It was also recommended that the first inspection should be made as soon, and the second as late, as may be found practicable; that the instructions to the judges be the same as last year, with an addition directing their special attention to the management and cleanliness of the dairy on those farms entered to compete for the dairy prizes; and that the judges be informed that a sum of £50 has been placed at their disposal by local subscribers, to be awarded in any special manner that they may deem desirable.—This report was adopted.

In reply to a question by Mr. Cantrell, the Secretary stated that the names of the judges and of the competitors would be published as soon as the former had officially signified their willingness to act.

GENERAL, WOLVERHAMPTON.—Mr. Milward reported the recommendation of the committee that the catalogues for the forthcoming exhibition should be sold by commission; that the first edition of the awards be printed with numbers only, and a full report published as early as possible; and that the secretary, with Mr. Banklock, be instructed to inquire what arrangements as to railway and admission tickets can be made with the railway companies, so as to report to the Council in May. It was also reported that the arrangements made by the secretary in reference to the supply of refreshments in the Wolverhampton showyard were considered very satisfactory.—This report was adopted.

EDUCATION.—Mr. Wells, M.P., reported that nine gentlemen had entered their names as candidates for the Society's prizes and certificates, five of whom are eligible for the Society's prizes, not having completed their 21st year.—This report was adopted, and the list of examiners nominated by the committee was also approved.

IMPLEMENT.—Mr. Jacob Wilson presented the report, which announced that a report had been received from Mr. Easton, explaining the system which he proposes to adopt in carrying out the trials of implements at Wolverhampton. In order to render these trials as efficient as possible, the committee recommended the purchase of a new dynamometer equal to 100-horse power on the break, a pair of indicators, two measuring tanks, measuring oil-cans, and weighing machine up to 28lbs., at a total cost of £234. They also recommended that the present dynamometer be thoroughly repaired, and that Mr. Easton be instructed to arrange a meeting with Messrs. Bramwell and Cowper, with a view of receiving any suggestions and opinions from them which may have been gathered from the previous trials of steam-cultivating implements at Leicester and elsewhere, and to report thereon. On the motion that this report be adopted, Mr. Randell again raised the question whether the original appointment to the office of consulting engineer to the Society had been of Mr. James Easton, or Mr. C. E. Amos (as it stands in the Society's Journal); or of Messrs. Easton and Amos (as it appears in the minute-book of the Council), and he moved the following resolution as an amendment to the report of the Implement Committee: "That as the existing appointment of engineers to the Society is the firm of 'Easton and Amos,' it is not expedient to release that firm from the responsibility of performing the duties appertaining thereto, until they think proper to resign the appointment, or until the Council shall think fit to make an-

other." This amendment was seconded by Mr. Booth, and opposed by Mr. Jacob Wilson and Mr. Ransome. A discussion then ensued in reference to the following questions: Whether the firm had originally been appointed consulting engineers to the Society; whether there had been any reappointment after Mr. James Easton, sen., and Mr. C. E. Amos retired from the firm, and, if not, under what circumstances Mr. Amos had continued to act as consulting engineer after such retirement, if not on the understanding that it was the individual partners who had been originally appointed. Ultimately Mr. Randell's amendment was carried by 12 votes against 7. The following resolution was then moved by Colonel Wilson, seconded by Mr. Pain, and carried unanimously, after some further discussion, in the course of which Mr. Randell stated that his resolution did not in any way upset the one which had been arrived at by the Council last month, in which it was stated that there was no vacancy in the office of consulting engineer: "That the Council recognise Messrs. Easton and Amos as their consulting engineers, the Secretary be instructed to write to Mr. Easton, requesting him to sign his report in the name of the firm, or, if not still in the firm, to obtain the signature of the firm." It was then resolved that upon this signature being obtained the report in question should be printed, and a copy sent to every member of the Implement Committee. The report of the Implement Committee as amended was then adopted.

JUDGES' SELECTION.—Mr. Milward presented the report of this committee, nominating judges of live stock, which was unanimously adopted, subject to an amendment appointing three judges of Leicester sheep instead of two.

SELECTION.—Major-General Viscount Bridport (having presented the report of this committee) moved, and Mr. Turner seconded, the election of Sir W. W. Wynn, Bart., as a vice-president, in the room of Viscount Bridport, elected a trustee.—This resolution having been carried unanimously, it was moved by Mr. Torr, seconded by Lord Tredegar, and carried unanimously, that Mr. J. Wells, of Booth Ferry, be elected a member of Council, in the room of Lord Vernon, elected a vice-president.

SHOWYARD CONTRACTS.—Mr. Randell (chairman) presented the following report: (1). The surveyor reports that the contractor has commenced the showyard works at Wolverhampton; that the drainage has been completed by Mr. Webb according to the plan produced to the Council at the last meeting; and that the necessary works for the supply of water to the showyard have been fully explained to the local committee. (2). The committee recommend that the contract with Mr. Penny, for the future erection of showyard works, be made absolute for five years, reserving to the Council the power of terminating such contract at any time in case of non-fulfilment of the conditions thereof. (3). That the filling and levelling at the entrances inside the showyard be done at the expense of the Society. (4). That the usual temporary fence inside the showyard be dispensed with. (5). That permanent wooden floors be made for the entrances. This report was adopted, subject to an amendment—"that paragraph 4 be omitted from the report, and that the fence be constructed as usual," which was moved by Mr. Davies, seconded by Mr. Jacob Wilson, and carried by 11 votes against 5.

Memorials having been received from the towns of Newport and Cardiff, and from the manor of Cheltenham, inviting the Society to hold their country meeting for 1872 in those localities, an inspection committee was appointed, consisting of the President, the senior stewards

of stock and implements (Mr. Jacob Wilson and Lieut.-Colonel Maitland Wilson), Mr. Brandreth Gibb, and Mr. Milward; and it was arranged that Mr. Randell should act for the President, and Mr. Torr for Lieut.-Colonel Wilson, in the event of their being unable to attend.

The secretary was authorised to affix the common seal of the Society to the diploma of M. Jublin Dannfelt, a recently elected honorary member. A communication from the Wolverhampton local committee was referred to the General Wolverhampton committee.

Memorials from the breeders of Shropshire Sheep in reference to the selection of judges were referred to the Judges' Selection Committee.

Letters were read from Mr. Bailey Denton on the subject of storage of water, and from Mr. Cobbett on a variety of Maize.

The usual leave of absence having been given, on the motion of Major-General Viscount Bridport, to the secretary and clerks, the Council adjourned over the Easter recess.

THE FARMERS' CLUB.

THE GROWTH OF CABBAGE AND KINDRED CROPS.

The monthly meeting of the Farmers' Club was held on Monday evening, April 3, at the Club House, Salisbury Square, Mr. J. B. Spearing, the Chairman of the year, presiding.

The CHAIRMAN, in opening the proceedings, said it gave him great pleasure to introduce to the Club Mr. Clement Cadle, of Gloucester, who would read a paper upon "The Growth of Cabbage and Kindred Crops." As our crops of turnips and swedes were very uncertain in some seasons, it was most important that the farmers of this country should be made as well acquainted as possible with the growth of a plant which was not only a pretty good substitute for swedes and turnips, which depended so much upon seasons, but was, for all purposes, a most profitable and productive article of produce in its feeding properties and in other ways.

Mr. CADLE then read the following Paper: I am afraid the subject I have to introduce to your notice this evening is not so interesting as many that engage your attention in this room, still it is one of considerable importance, and one that has not received sufficient attention from agriculturists. It has never received any special notice by the members of your Club, although many gentlemen have more or less alluded to it in the papers introduced by them. It is also a subject that has not received its share of notice in the Royal Agricultural Society's *Journal*; it has, however, been noticed by the following gentlemen: The Earl of Lovelace, vol. v., p. 112, recommends the planting rows of beans 3 feet apart, and a row of cabbage between, in May or June, and states that his crop of beans was increased from 35 to 41 bushels per acre since the cabbages were introduced. Mr. Hugh Raynbird, in his prize report on the Farming of Suffolk, vol. viii., p. 276, describes the system adopted by Mr. J. C. Downham, of Earl Soham, of ploughing the land in 5½ feet ridges, and planting the cabbages on the top of each ridge. By this means the cart-wheels run in the furrow, and the crop is removed without injuring the land. The time of day chosen for putting in the plants is from four to seven, or eight in the evening, thus giving them the benefit of a cool night, and the cultivation is carried on between the rows with the common plough, only doing each alternate space, thus cutting off the roots on one side the plant only, and allowing four or five days to elapse before cultivating the other side. Mr. Clare Sewell Read in his prize report on the Farming of Oxfordshire, says the drumhead is the variety most commonly cultivated in that county, the seed being planted in August for planting out in October, and in February for planting out in May and June; that they are planted out a yard apart, requiring 5,000 plants per acre, and that they commonly weigh 10 or 12lbs., but that several that season had reached 24lbs. In vol. xxi., page 93, our friend Dr. Voelcker (who, by the way, has done more for farmers and modern farming than any other man in England) (Hear, hear) furnishes a paper on the analysis of kohlrabi and cabbage, and says that they deserve to be more extensively cultivated than they are, and that the former crop stands the frost remarkably well, and far surpasses white turnips as food for lambs. In vol. xxiv., p. 216, Mr. C. Lawrence, of Cirencester, has a good article on the growth of cabbage. He

and finds them invaluable for his lambs when they come off the clover and before they go upon the swedes. He estimates their weight per acre at 30 tons, against 18 of swedes, and 22 of mangolds. Mr. John Chambers, in the second series of the Royal Agricultural *Journal*, vol. v., p. 376, describes the system he carries out of growing potatoes and ox-cabbage in alternate rows, as also tares and savoy cabbage. These gentlemen have only treated upon cabbage as a general crop, and all of them allude more particularly to the drumhead or ox-cabbage; but my principal object this evening will be to show the advantage of cabbage as a summer crop; not that there will be much that is new to the members of this Club, but that, by the expression of your opinions in the discussion, it may be brought more prominently before the farmers of England and receive more attention than it does at present. The value of cabbage was brought more prominently under my notice last summer from the fact that as far as my observation went, those who had a good stock were enabled to get through such a critical season with far less serious consequences than those with none. I will point out—1st, its advantages as a summer crop; 2nd, the different methods of planting and cultivating it; 3rd, the time and mode of consuming it, with some general remarks.

THE ADVANTAGES OF CABBAGE AS A SUMMER CROP.—Before entering upon this we ought perhaps first to discuss how the crop can be produced, and at what cost; but I purposely place this first in order to show that whatever the cost, cabbage should be grown. On the generality of farms the end of May is a critical time in the management of grazing land, for if sufficient stock is not kept to prevent the grass getting long, the stock do not care to graze it afterwards (especially the pastures on the lighter soils, where a quantity of couch grass is often mixed with the other herbage), preferring the bare places; and thus the grass on a portion of the land is left over for winter. I admit this may be obviated by mowing a portion of this old grass each day, but this is not often done. The difficulty the grazier has to contend with is to have sufficient stock to keep the grass down, and at the same time not to over-stock, and so not to have enough food to keep the animals in a progressive state. It is at this period, therefore, that the farmer needs to be prepared with some early cabbage, so as to be able to distribute a cartful or so each day amongst the stock upon these pastures, and thus be enabled to meet the above emergency. Very often drought sets in, and the grazier gets so hard up for food in June, July, and August, that he is compelled to sell at a great sacrifice in consequence of shortness of keep, when a few acres of early cabbage would have prevented such a sacrifice. This is an important point to be considered, for we have to bear in mind that this is a case that affects whole districts, as if one farmer is compelled to sell off stock from this cause numbers of others are too, the fall in the value of stock is considerable, and the loss often great. To the sheep-farmer it is, perhaps, of still greater importance, as the clover crop has of late years been such a precarious one that he is often put to his wits' ends to know what to do with his stock so as to keep them in a progressive state, and in this case a load or two of cabbage per day when the feed runs short is invaluable. In the case of his lambs,

we all know that to rear sheep profitably they should maintain the fat made from their mother's milk, or in other words, be kept in a progressive state, for a check in the growth of a young animal not only undoes the work of weeks, but it often takes months to get the animal back into a thriving state, besides the question of loss of life, often very great with this kind of stock in October and November, the mischief being done in August and September, when a liberal allowance of cabbage and artificial food would be a preventive of all these evils, as cabbage is one of the finest things you can possibly get for lambs. Ram breeders and farmers producing prize stock are quite alive to its advantages, for at the Royal Agricultural and other shows you scarcely see a pen that is not fed with cabbages, and it is with difficulty a lot of rams can be brought to perfection without it as an auxiliary. If it is to the advantage of such men to grow cabbage surely there can be no question about its being so for those also who have to rear a flock of sheep. Whilst upon this subject I would mention that there is one point too often lost sight of, and that is that an animal in good condition, unless subjected to cold or violent exercise, consumes less food in keeping up the wear and tear of the body than one in low condition, as they lie down more and are in a more contented state; consequently they must convert more of their food into flesh and fat, and thus are the better machines for the farmer's purpose. Another profitable use to which cabbage may be applied as a summer crop is for fattening cattle in the stalls during the summer. Mr. Anthony Bubb, of Witcombe Court, near Gloucester (who has for thirty years kept his stalls full in the summer as well as in winter), tells me that the cattle feed much faster tied in during the summer than they would out grazing, as they are not exposed either to the heat of the sun by day, the cold nights which often occur, or the torment of flies, either of which causes may be the means of the beast losing the fat it has been days in acquiring, and is consequently so much loss of food to the farmer, while his difficulty is to keep them on when, from drought or other causes, a deficiency arises in the supply of green food. He tells me he has never tried cabbage, but it appears to me that a few acres of Enfield Market or other early cabbage just meets the difficulty; for there is no doubt cattle fed under cover in the summer require much less food to produce the same amount of fat than when they have to roam about and have the labour of finding it for themselves—especially is this the case with large beasts, upon which the labour of gathering its own food tells so much more than upon small ones. I would also commend the practice of stall-feeding to the advocates of the factory system of cheesemaking; for a cow will give much more milk if her food is brought to her ready prepared than she will if she has the labour of getting it for herself. I believe that, with the aid of cabbage, that system will introduce cheese and butter-making into arable districts, with great advantage too, upon the lighter class of soil, where the greater portion of the roots grown must be eaten on the land, for then instead of the farmer buying cattle simply to tread straw in the winter months he would be able to make it into manure during the summer, and in a far more profitable manner.

THE PLANTING AND CULTIVATION.—The greatest difficulty in getting a crop of cabbage is to get a stock of good plants, as the seed requires to be planted at a time when the farmer is very busy, and both the ordering the seed and the sowing it is too apt to be forgotten. The best plan is to order the seed of your seedsman in the spring with the other seeds, and prepare a quarter or half an acre of land in a corner well sheltered from the north and east winds, and on the 20th of July sow one-fourth and the other three-fourths at intervals of a week between each planting, so as to use every precaution against accidents of weather and vermin. As soon as the plants come up they require to be noticed to prevent their being destroyed by the turnip fly or slugs: they should be moderately thick, as they are like young larch trees, and nurse each other up while they are young; at the same time if planted too thick they get too tender and too long in the stem. In the beginning of October the land intended to be planted with cabbage should be well-worked, if possible sub-soiled, and manured both with farm-yard and artificial manure; for the cabbage plant is a gross feeder and cannot well be over-manured, as the weight per acre may often be doubled with no extra expense except the manure. The plants should

then be set out in rows 24 to 27 inches apart, the latter distance being preferable, so as to leave room for horse-hoeing between the rows. The plants are then set with a setting-pin 12 inches apart in the rows. This should be done when the land is moderately dry, otherwise the pin is apt to leave the soil caked in the hole, especially on some soils. The plant is then put in and the earth pressed to the roots, so as to fill up the entire hole, otherwise a hollow is left under the plant very prejudicial in dry weather. Care must be taken that the root of the plant is not doubled up in putting it into the hole, although some little doubt is entertained whether this is of much consequence, for one gentleman told me he found fault with his man for not being more careful, and the man said it did not matter, as the new roots would spring out above this. He marked some to see if it was so, and could not find any difference between those put in straight and those with the root doubled up. If the weather is very dry, it is sometimes advisable to water the plants in the bed, as they draw so much better, and the small fibrous roots do not get broken off. I know one gentleman near Ross, whose own description I will presently read to you, who has been a successful grower for many years, and who gets his set out at 6d. per 1,000, a man planting 5,000 per day; but I have never been able myself to get this done. The planter can get on much better by having a boy to drop the plants to him as he requires them. As they will have to be horsehoed, it is necessary to have the rows planted straight, and this may be done by the use of a line, or some pieces of cord or a band may be put round the roll at the requisite distances, or something put to drag behind the harrows, care being taken to go straight; but the best plan is to put the coulters of the seed-drill the requisite width, and run it over the land. Another, but more expensive mode, is to set them in every third furrow, taking care that the horses do not tread on them. They may also be set with a spade or a hoe, the trenches being first opened with a plough. When planted out with the rows 2 feet apart, and at a distance of 1 foot from each other, it will take in round numbers 21,000 plants to the acre. These, if bought at 3s. 6d. per 1,000, will cost £3 13s. 6d., and 6d. per 1,000 for planting out, will make the cost £4, or, to be on the safe side, say 9d. per 1,000, which will make the cost £4 8s. 3d.; but as the whole cost of the plants if grown at home would only be about 10s., as 1lb. of seed at 4s. will raise sufficient plants for an acre, and say 9d. for planting, the cost in this case would only be £1 6s. per acre. To this we should have to add cultivation of the land, say 30s.; rent, rates, and taxes, say £2; horse-hoeing, 8s.; and manure £2, making a total of £7 4s. per acre, besides farm-yard manure, which must be supplied liberally; and if you can grow 30 tons to the acre you get a most valuable stock of food at less than 5s. per ton; and where is the man that is not willing to give double this sum for all he can get? Another mode of planting that I have tried, and also seen tried, is to drill the seed as you would turnips or swedes, and fill in any gaps from the places where the plants are thick; by this means you also get a quantity of plants to sell to your neighbours, if you draw the plants by hand to the requisite thickness. I have never been successful with this system, and do not think it answers so well as the transplanting, for in the first place, you have no land in July without sacrificing a crop of turnips or swedes; and in the next, the plant while young does not seem to thrive on the ridge; but I must admit I have never tried drilling on the flat, by doing which, no doubt, the plant is more protected than on the ridge, while in a tender state. On the other hand, in October, you can plant after a corn crop, and it is a poor crop of turnips or swedes that is not worth the cost of planting out the cabbage plants, viz., 15s. 9d. per acre, and, I believe, the crop does better for being transplanted. Such has been my experience and probably that of others too, as this mode has not been much followed that I am aware of. The cabbage is also a most useful plant for filling up gaps in the rows of mangolds, swedes, or turnips, for we all know the difficulty there is to get a crop of anything in these gaps if they are once there. They are also very useful for setting out in all sorts of odd corners, that are to be found on almost every farm. Sometimes it is requisite to water the young plant after being set out; but this is not often the case, as they stand a good deal of dry weather, and the nights are long in April and October; still, when planted in May and June, a little notice must be given, and watered if necessary.

TIME AND MODE OF CONSUMPTION.—As I have already explained the greatest advantage of growing cabbage is for the purpose of helping out other crops, and it should be ready to begin upon by the end of May being used as required during June, July, and August. The cabbages should be cut off with a knife, leaving the three lower leaves on the stem, these being then cut off separately and taken away with the cabbage: this will allow the stem to shoot out, and you get a second crop in September and October, which comes in very useful for the lambs, if not required for any other stock. Should the cabbage be cut off the stem below the leaves they do not sprout out so well, and often not at all; therefore the man who cuts the cabbage requires to be looked after to prevent his cutting them too low, as to cut them low is only half the trouble of cutting the cabbage, and then the leaves separately. This system of keeping for a second crop I consider the most profitable, but they are sometimes grown and consumed by being carted off, or by sheep upon the ground, and the land is afterwards ploughed up and planted with rape or turnips. I have also seen beans grown amongst the cabbages with advantage, the crop in this case being sold for market in May before the beans get very high; then the stems sprout again, and the beans are out of the way in the beginning of August, so as to allow of the second crop of cabbage coming to advantage. Some persons make a very profitable mode of consumption by selling them off early, in May, when I have known them sold at the rate of £40 per acre, as at this season of the year most kinds of greens are getting scarce. The ox or Drumhead cabbage are generally grown in a different manner from that already described, the seed being planted in the spring, and the plants set out in May or June, coming to a crop in October and November, and upon clay and heavy land they make a very valuable crop, especially on soils that do not grow turnips and swedes well, as they come in for the sheep till nearly Christmas, and even kept for ewes and lambs in the spring; and the stock generally thrives upon them. When grown in this way they take the place of a portion of the turnip crop in the rotation, and are eaten off in time to plant the land with wheat, and I have seen fields of 40 or 50 acres planted with it. About one plant per yard is thick enough, if the land is in good condition and suitable for growing them of great size. It is advisable to plant them in rows each way, as they well repay a little extra trouble in setting out, if you are enabled to horse-hoe them across as well as between the rows, for in this and in all root crops the point to be borne in mind is that little profit attends the growth of roots themselves, but their great advantage is in preparing the land for corn, and the more you cultivate between the roots so much the more of the constituents of the soil are rendered available for the following corn-crop, which at last is the paying crop. If, as has been shown in this room, the land naturally produces 15 or 16 bushels per acre every year, and that by taking a crop of roots you can grow the same quantity (that is 30 to 32 bushels) every other year, and get a crop of roots to pay the expense of cultivation, you must be the gainer, as you save the seed and labour of the alternate crop of corn. If I may here be allowed to digress a little from my subject, I would mention I have no doubt you were all equally struck with myself at the result of Mr. Lawes' experiments, as he detailed them to us last year, when he showed that the land planted with wheat every year produced naturally, without any stimulant, 15 bushels per acre; therefore we may take it as a fact that the atmosphere brought sufficient plant-food of the soil into an available state for that amount of corn. With the simple employment of stimulants (nitrate of soda), he raised the crop half as much again; but, if he could spare one of his plots, he would confer immense advantage upon us if he would cultivate it perfectly, bringing fresh soil to the surface every two or three weeks, and only plant the corn upon it every other year for a series of years, and my belief is that he would then without any application of manure grow as many bushels in one crop every other year on that plot as he does on the present unmanured plots with two crops planted every year. The doubt having arisen in many minds whether the present system of growing root or fallow crops every alternate year is not wrong, it would either tend to confirm that doubt or it would show (as I believe it would) that it is the right system, although it is not so much the growth of roots that confers the benefit as the opportunity afforded, and generally

carried out, of thoroughly working and pulverizing the soil; for we know, from analysis, that there is in most soils sufficient mineral matter to last for thousands of years, but the difficulty is to render it available to the plant; and if this can be done by cultivation alone, it will teach us to work our land with this object in view during the spring and summer, and not to undo all our work by treading and poaching the land (especially heavy land) with sheep, &c., and thereby throwing it back. The ox-cabbage is not so nutritious a food as the smaller and earlier sorts, still, as a crop, they are valuable, and with a little attention may be grown with profit in all sorts of odd corners of the farm.

GENERAL REMARKS.—Cabbage is unquestionably one of the most nutritious of green crops, as will be seen by the following analysis and remarks, by Dr. Voelcker, in vol. iv. of the *Bath and West of England Journal*, on the Chemistry of Food.

Water	...	...	...	...	86.28
Flesh-forming substances	...	...	...	...	4.75
Heat and fat-producing substances	...	...	...	...	7.10
Inorganic matters (ash)	...	...	...	...	1.87
					<hr/>
					100.00

It will be seen by this that the per-centage of flesh-forming substances is nearly three times as much as in common turnips, and is equal to almost all our clovers and grasses, and hence the avidity with which it is devoured by young growing animals such as lambs, and by its producing so much milk, and I mention this to show its superiority as a summer crop over clovers and other grasses, for if you grow double or treble the weight per acre at only a slightly increased cost, and get a crop more available for being given to stock, in consequence of its not ripening to a crop all at once, as is the case with green crops, it gives cabbage a great advantage, and entitles it to take a more prominent place on our farms. Dr. Voelcker remarks: "Indeed no kind of green food cultivated on a large scale in the field contains so much nutritious matter as cabbage. Being much more nutritious, weight for weight, than turnips, and at the same time very succulent, cabbages form a valuable food for milch cows. Cattle are very fond of cabbage, and dairy cows fed upon it and some hay produce much and rich milk; and the butter made from the latter is free from the disagreeable flavour which it always has when cows are fed upon turnips. Cabbages for this reason are a valuable substitute for turnips, and deserve to be more extensively cultivated, in England than they are at present."

In concluding my paper I will give you some letters I have received on the subject by gentlemen who have been growers of cabbages: Mr. Hartland, of Biddlestone, near Ross, tells me he has grown them for twelve or fourteen years, and does not know now what he should do without them. He plants the seed in last week of July or first in August, and plants them out in October, getting the land into a fine tilth, made firm by rolling. He then marks it out with a turnip-seed drill as he would drill turnips, and then crosses these drills, so that there is the mark for each plant, &c., being planted: this enables him to horse-hoe each way. He has two men who will each set their 5,000 per day; and he told me he had heard of a man at Evesham who would engage to plant 1,000 an hour. He does not keep them to sprout for a second crop, but begins in June to cart them to the sheep on the clover, finishing them off by hurdling the sheep on them at night, and letting them go on the clover by day, and after the crop is cleared takes rape or turnips. The way he has grown the heaviest crop of cabbage has been by trenching the land out three feet deep, and filling in the bottom of these trenches with farmyard manure; but this was only in a garden, and would be impracticable in the field, but the crop obtained by this method was immense. Mr. Stratton, of Chilcombe, Hants, writes: "I sow cabbage seed early in August, some of the small early and some of the large late kind. I plant out some of the small sort in the autumn for feed in July, and in the spring plant out all the plants. I have the small sort two feet square, and the large three ditto. They will keep good till January, and do sheep better and grow more feed than any other vegetable. The planting out of the small sort costs 10s. per acre; the large, one-third less. They can be cheaply kept clean by horse-hoeing two ways. I sold one hundred lambs (born the

end of February and beginning of March) October 22nd, at 60s. each, and cabbage was their chief diet." Mr. R. H. Masfen, Pendeford, Wolverhampton: "I grow a few acres, my first being the garden kind, and I follow up with the larger and later sort. The early kind I plant in rows between the furrows, and 16 by 14 between the plants; they, therefore, average nearly $5\frac{1}{2}$ cabbages per square yard, and grow nearly or quite as large a weight as the larger kinds. We begin to cut in June, and arrange to have them for the remainder of the year, and some of the later planted we generally reserve for the ewes during the month of March and April. The difficulty is to secure them from frost, and if they are planted too soon they are of little advantage for spring food. I have a good portion of my plants from Scotland, and although I have frequently grown seed from the best of the kind, they are not so good in their proof as the plants I get from there direct—a thing I am often surprised at." Mr. Samuel Robinson, Melbourne, near Derby: "It is now about thirty years since I began to cultivate ox-cabbage upon an extensive scale as an article of food for sheep and cattle. At that time it was not nearly in so general use as at present. My method of using it for cattle was to put it through the chopping machine with the straw, which produced an article of food both wholesome and at the same time more economical than any I knew, and of which they ate freely. After several years' experience of its value for autumn and early winter food, I directed my attention to the improvement of the stock then in cultivation, and by seeding the large hearted stems in close proximity with the leafy and more robust constitutioned ones, I think I have succeeded in producing a stock which will stand a much greater amount of severe winter weather, and also double the weight of vegetable substance. I have on several occasions calculated on different plots of land after the rate of 50 to 60 tons per acre, with individual bulbs from 70lbs. to 84lbs. each, and by reference to my catalogue you may judge of my success in different competitions and exhibitions. I have found that ammoniacal liquor from gas works, soot, lime, and salt, combined with stable manure, are a good dressing for the growth of the cabbage class. One of the great advantages of cabbage for cattle and sheep food in autumn is, that they have less acid in them, and do not produce that scouring effect as mangolds and turnips at that season of the year. I think it well to mention that in reading the Farm Memoranda contained in the *Gardeners' Chronicle* of March 25th, it says that: 'The cultivation of cabbage is greatly increasing, but it will never find favour when planted in the autumn in field culture. Nearly all the plants set before Christmas have been destroyed by the frost, birds, and other enemies; seed sown now will produce crops within a few weeks as early as autumn-planted, and without the risk.' This is holding out a mistaken course of cultivation to young growers. Spring-sown plants can never arrive at anything like the size and perfection of autumn-sown ones. I have tested them on several occasions, and will give any man 20 lb. a head in competition with 20 cabbage and then beat 10 more, making 30 lb. It is quite true we have recently had some trying seasons for the cabbage class, particularly by the destructive effect of insects or what we call the green-fly; the destruction, however, has been equally great with spring-sown plants as the autumn ones." Mr. T. H. Saunders, Watercombe Farm, Dorchester, says: "I am not a large grower, but I generally grow five or six acres a year of what people call Robinson's drumheads; it is a large sort of cabbage which comes in for feeding at the latter end of September, and lasts until after the heavy frost comes in. I generally cut and cart away the best and fold after with sheep. I give my carted ones to my store pigs and working oxen; and when my fattening beasts first come to house, I begin by giving them cabbage as long as they last. I find all stock are fond of them when they get ripe and hard. They don't all get ripe together, therefore I cut a road through the piece wide enough for a cart to pass, and begin to cut the ripest first, as they begin to crack open, and carry them to the road, where the cart takes them away; so I still go over them and cut those which are ripe, as I find all stock prefers the hard white part. I do this because the first which get ripe spoil before the later ones are fit. If land is put in good order, well maintained with yard dung in our chalky arable land they weigh from 8lbs. to 16lbs. each, and some of the best up to 20lbs. and 25lbs. each, in a good season. I don't grow any early sorts,

as I don't want them at that time of the year. I generally grow them on land coming in course for wheat, where the other part of the field is sown to rape or early turnips, as rape comes with me better than cabbages planted out early in the autumn, as the winter and game destroy them if planted out in the autumn. I am just going to plant out mine now in the open field. I have about 130,000 which I transplanted about 4 inches apart, last September, in a sheltered situation, and put hurdles round to protect them; they are now good sized plants. I put them at two feet apart each way, so as you have 64 to the rod. I am particular about having them put in exactly on the square, as I can horse-hoe them each way to keep them clean at a little expense when you see any weeds begin to appear. Cabbages must not be sown before the first week in August, or many of them will run to seed. I generally leave an end of a headland in my turnip field to sow about 3lbs. or 4lbs. very thickly, until they are large enough to transplant out. By this system I find it is most convenient, as well as cheapest. If you buy your plants, you often do not get the sort you want, and cannot get them when most convenient to put them in. I find the way to get the sort of seed is to pull up three or four of the sort of cabbages in September which you think is the best, trim off the leaves instead of cutting the cabbage in the usual way, then transplant them where they can stand for seed. If not planted early the winter mostly kills them. Then sow this bit of seed early in June, to go for seed, as I have before described. By this means you can improve your sort. The way I adopt in planting is easy and simple. When the land is worked fine I roll it with a light roller; then I put two tines reversed to the bar of horse-hoe, with a pony in; it makes two marks across the field; then I put in a third tine; let the third tine be steered back in the mark made in the first going across, which keeps the distance exact at two feet apart. When you have the land marked out one way, then begin to cross the other in the same manner, so that they can see where to put the plant at every crossing. Some boy or girl takes the plants in baskets, and drops one on every crossing. It costs about 4s. per acre in planting. I sometimes sell some to people who come with carts to carry to market. I never sell them under 3d. each; it would pay well if you could get plenty of customers for all." Mr. T. Chapman Saunders, of Watercombe, son of the last-named gentleman, read a paper to the Winfrith Farmers' Club, on the 6th of last month, on the preparation required and the best time for planting the usual farm crops on different soils, part of which is pertinent to our subject this evening. In the course of his remarks he said: The greater the variety and assortment of green crops for stock to be used at different stages throughout the season the better. Experience too-truly proved, especially in the case of swedes and turnips, that the land became "sick" by the same crop being too frequently sown, hence farmers should give attention to any new plant that was calculated to supply such a deficiency. Cabbage has been thought by some to be an exhausting crop, but after ten-years' experience he had arrived at quite a different conclusion. He had invariably found the land to grow wheat better after cabbage, part carried off and part fed on it, than after turnips. He would remind them that the expense of rearing plants, including transplanting, hoeing, &c., was precisely the same for a bad crop as a good one, hence (the cost per acre being the same) the better the land was, or artificially made so, so much the better paying the yield would be. He thought also some misapprehension existed as to the cost and method of growing cabbage in the field. As much had been said and written on the subject of late, perhaps it would be well to state something of the system he had adopted. In the first place he reared his own plants, which everyone who intended growing a few acres of cabbage annually should do, as by that means the expense was much less than by purchasing them, to say nothing of the advantage of transplanting immediately from the bed. Besides, they could choose the weather most suitable for the purpose, which, if stormy, was so much the better. The seed should be sown about the first week in August. If sown in July the plants too frequently "ran to seed." He was therefore inclined to attribute in plants their going to seed and being regarded as a bad sort, to the fact of their being sown too early. About the beginning of October these plants would be fit to transplant into a plot of well-prepared land, allowing each plant about four inches square of space each way. One horse and plough

was needed to turn over a small furrow, which was best raked down to make a plain surface for the reception of the small plants which should be set in the ground by piercing holes with a stick. A good staff of labourers, and a suitable time should be selected for such work, so as to get it completed in a limited period, thus the small plants should remain till the following April or beginning of May, when they could be removed and planted out finally at proper distances, say two feet each way, which should be done in this manner: Having prepared the land (which is generally taken after a root crop, fed off late, after the barley sowing has ended), the soil should be rolled lightly to get a comparatively smooth surface. Then fixing three times (the reverse way remember) on the bar of the horse-hoe, at a distance of two feet apart, proceed to mark lines across the field one way, then drawing the implement across the field at right angles the other way the plants must be set at the points where the lines cross each other, thus easily indicated, and from the fact of the plants being in perfectly direct lines several ways, the horse-hoe would save much labour in hoeing, by first going one way, and then across in the other direction a few days later, as might appear desirable. Thus the cost of hand-hoeing was reduced to a minimum. About 11,000 plants per acre would be required to place them at what he found a fair distance, viz., two feet apart each way. Method was essential in the distribution and economy of labour in planting cabbages, not less than in many other branches of farming pursuits. He found the following the best plan to follow: First, form a company of three men, each taking a separate line across the field; one boy or woman had work enough, and not too much to drop the plants one at each mark indicated. If another company could be formed similar in number so much the better, but it must act quite independently. A lad not quite equal to planting might be usefully employed in placing baskets filled with plants at easy distances from those who dropped them, and also in removing empties. He preferred placing plants in baskets when drawn from the beds, as they suffered little damage in that manner compared with what they might if thrown into a cart. It was also easier to carry them into the middle of a field, walking on the land already planted, so as not to disturb the crossing marks. The cost of carting the plants, say one-eighth of a mile and planting on this system, would not exceed 5s. per acre altogether. It was better to plant out finally in spring rather than in autumn, as the risk of damage by game, rabbits, wood-pigeons, and severe winter was lessened. A deviation from the four-course rotation was necessary to grow cabbages well in this respect, as well as many others; that system would be more and more condemned as time passed and circumstances altered. Other systems providing that not more than one-half the land sown to corn in any one year might be advantageously introduced into future agreements between landlords and tenants. Mr. John Cadle, Ballingham Hall, near Ross: "The following is the plan I usually adopt: About the 20th of July I sow my seed on land previously prepared for that purpose, and which has been rendered of a very fine tilth. I generally leave a portion of the ground that has been prepared for turnips for this purpose. Some plant the seed after early potatoes, and it is a very good plan, as the object is to get the land as clean as possible and not manure too highly; if manured the plants grow so quick, and the stems are very liable to become broken in planting, and are also very apt to become long in the stem; 4lbs. of seed is sufficient to plant half-an-acre of ground, and 1lb. of seed will grow enough plants to transplant one acre. It is a great mistake to sow the seed too thickly: the plants do not make such vigorous growth from a thick seed-bed as a thin one. I have tried drilling the seed on the ridge, and then drawing the surplus plants out in the autumn or spring, leaving the remainder to their proper width. If drilled in summer, the ground is occupied too long; and if drilled in autumn, the plants are not strong enough to stand the winter, and are not deep enough in the ground to prevent the winds in March blowing them away. Immediately after harvest, I use Bentall's Broadshare on my wheat stubbles: and thoroughly clean it. I then let it remain till about the middle of October, then haul about 15 tons of good farmyard manure; plough it in about seven inches deep. The plough is followed by subsoil plough, breaking up the bottom of furrow another four or five inches. Then, about the last week in October, I sow on about four to five cwts. of bone,

superphosphate of lime: harrow the ground down and mark out the rows. This I accomplish by taking the levers out of corn-drill, and only leave two or three in according to width required, then run the drill over the ground: one horse will do this. I then transplant the cabbage plants in the drill marks. I like them best 27 inches apart from row to row, and about 15 to 18 inches in the row. By putting them 27 inches apart, I am enabled to get a cart between the rows, during summer, to haul off those that become matured first without injury to the others. I like planting on the flat much better than on the ridge, as I used formerly to do, the ground lies so much cooler during summer. Care must be taken to steer the drill straight. I give 1d. per hundred (120) to pull and plant. Women can get about 2s. per day, provided they have not far to carry them. I endeavour to have them in the adjoining field; they get better rooted to stand the winter when pulled and planted the same day. I should not advise any one to plant too early, as they are very apt to go to seed in the spring; if planted about the end of October they will be plenty early enough, as my object in growing cabbage is to provide food for the stock when all other keep is short, which is about June, July, August. Mangel-wurtzel are generally all gone by this time, and then in September, and during autumn and winter, we get plenty of turnips and swedes. No farmer should be without an acre or two, and I find those who have planted increase their acreage every year. During May and the early part of June we also have generally a sufficient quantity of grass and clover. I find that during the three months before named, we are shorter of keep than at any time of the year. I find them especially useful to haul out on clover, &c., to wean lambs on or to give to milk cows in July, when the grass is shortest, and before the aftermaths are ready. I think the "Enfield Market" the best sort to plant: it grows large and yet comes in early, two most desirable objects. I use the horse-hoe very freely during the summer months. I have often been surprised at the great quantity of keep one acre will produce."

Kohl Rabi is a variety of cabbage that I will just mention in order to give any member who has had any experience of its growth an opportunity of giving us the benefit of that experience. For myself I have never grown any, and they do not seem to command so much favour in the west and north as in the east and south, and this is probably accounted for, in some measure, by the fact that it is a plant that delights in dry weather, so that a climate with only half the quantity of rain we get seems best adapted for it. This accounts for the few specimens to be seen last autumn at our agricultural shows. It seems to be well adapted for the heavy retentive class of soils better than the turnip, as the bulb being above the ground the nature of the soil does not interfere with its extending in size. It is planted and cultivated much in the same way as the ox-cabbage; but where grown in large quantities it is drilled direct on the land in the beginning or middle of April, and singled out to the requisite width when of sufficient size. It appears a very suitable crop for transplanting after vetches, peas, or early potatoes, and for filling up gaps in mangolds and swede rows. Dr. Voelcker informs us in the *Royal Agricultural Journal*, vol. xxi. p. 93, that it stands the frost remarkably well, and in Germany, where they are grown for the table, they are not considered good until they have stood at least a week's frost. He gives us the following as the analysis of the green-top variety:

Water.....	86.030
Oil.....	.227
* Soluble protein compounds.....	2.056
Sugar, gum, and pectin.....	6.007
Salts, soluble in water.....	.970
† Insoluble protein compounds.....	.300
Digestible fibre and insoluble pectinous compounds.....	2.993
Woody fibre.....	1.230
Insoluble mineral matters.....	.197
	<hr/>
	100.000

* Containing nitrogen329
 † Containing nitrogen048

Total nitrogen..... .377
 Percentage of ash..... 1.167

This analysis shows kohl rabi to be much more nutritious

than swedes, mangolds, and turnips. He also states that "it is excellent food for milch cows, inasmuch as it produces much and good milk, and the butter has not the unpleasant flavour of that made from milk of cows fed upon turnips."

Mr. G. MATSON (Mersea, Colchester) quite agreed with the reader of the paper that cabbage-growing had not received the attention it deserved from the farmers of England, notwithstanding which he believed that in a few years it would be everywhere recognised that cattle cabbage was one of the most invaluable products within the farmer's reach. Although he had been engaged in farming operations for fourteen years, he must confess he never grew cabbage till last year, when he was induced to plant some upon half an acre of land beside the road. This he did on the 4th of June. On the 16th of January he found that the ordinary green food which he required for 150 Hampshire lambs failed, and he turned to the cabbage. For weeks he might say the animals lived upon nothing besides corn and cake but the cabbage leaves stripped from underneath the plant. To his surprise, this did not hurt the cabbages in the slightest degree. They might learn a lesson from this, for it was a most general thing to leave the under-leaves to rot away. With regard to the remarks of the reader of the paper as to the estimated weight per acre, he (Mr. Matson) generally found that the weights of such things required weighing over again. The *Mark Lane Express* had told us of somebody growing 60 tons an acre of mangold wurtzel. [A VOICE: "So it was."] All he wished to say was that they should be cautious in receiving all wonderful weights and measurements. His latest crop of cabbage was grown in July, and fed off in October; but he had some seed from Sutton, of Reading, sown in October, which he fancied would produce an immense quantity of food. On heavy land the autumn-sown cabbage was not what was most suitable. It was in that case necessary to transplant in the summer to consume in the autumn. Mr. Cadle deserved the thanks of the Club for introducing a subject, to which but little attention had been before called (Hear, hear).

Mr. MECHI (Tiptree, Essex) had been a cabbage-grower for many years. He always grew plants planted in the spring, to come in during the late summer months. At harvest-time, for instance, they were exceedingly useful. As they always should keep cattle stall-feeding in the summer, as well as winter, the value of cabbage was immense, when other food was scarce, and this generally happened in July, August, or part of September. At that time he invariably planted about six acres of cabbage after winter tares. He generally got a good crop of winter tares mixed with winter oats and some wheat, which was of course cut and consumed. As the land was cleared he manured it with twenty loads of rich manure; then double ploughed it, one plough going on the top, and another, drawn by four horses, going underneath. What applied to many other root-crops, applied also to cabbage—it wanted deep cultivation and plenty of manure. The land being so manured and rolled down, he watched the opportunity for a good thunder-shower, which was a very uncertain affair. Last year he had, as the Club would remember, to wait an unusually long while, but the moment the opportunity arrived he got every person upon whom hands could be laid in the neighbourhood. The cabbage was taken from the beds and at once put into the ground, the marks being of course made with the drill. He recommended every farmer to have always a bed of cabbage-plants; the same with kohlrabi, else just as the plants were wanted a difficulty might be experienced in getting them, because even if there were any near, which was very often the case, they were in general demand. Besides, the plants got so dry from counting them and bringing them some distance, that it took away immensely from their value. In his case they applied the jet to the cabbage bed, and the consequence was the plants pulled up easy, with plenty of mud around the roots, and were much more likely to grow than under any other circumstances. Although last year was so unfavourable to planting out, the cabbages were planted out. Then came the unfortunate winter, when he expected every cabbage would have been killed, but they had, on the contrary, proved to be of the utmost value during the present spring for the lambs. Of so much value were they, that a neighbour of his had bid him £15 for a single acre for his sheep and lambs; but he declined to part with

them. In feeding animals, if they were not folded on the land for bullocks, for example, he passed the cabbages through a pulper worked by steam power, and it was astonishing how useful they were mixed with the other food. Where they grew plenty of beans on heavy land, if they were short of food in July they might have as much as they liked, by passing the beans through the chaff-cutter. He always bought in his live stock in July, because people were then obliged to sell them, and there was less likelihood of disease (Hear, hear). Kohlrabi was very much the same kind of thing as cabbage; it transplanted admirably, and it might be grown from seed. He himself had grown it both ways, and in growing from seed it had better be treated as in the case of mangolds. This was the readiest method of producing an enormous crop. There was one point to which he would wish to draw the attention of the public at large, especially the inhabitants of towns, namely, the application of town-sewage for the growth of kohlrabi and cabbage. He once grew 11 acres, when he kept a quantity of pigs, and applied sewage with the jets, and the Club would have no idea of the enormous produce. On one occasion there was a small leakage from the sewage pipe, and along the line where it ran, the cabbages were almost as big as bushel measures over and above the rest of the field. An examination of any of the sewage farms would show the enormous rapidity with which the cabbage crops were grown. The plants were always healthy, because they were always kept moist. Cabbages put into sewage ground, in ten weeks produced a crop worth £25; they got in point of fact all the good results of a tropical climate by the summer application of sewage. He thanked Mr. Cadle for his paper, and quite agreed with him that cabbage was a safe and excellent food, the cultivation of which he would recommend to every farmer. Before concluding, he would remind the members of the Club of the great benefit they might derive by visiting each other's farms. The late Mr. John Hudson, of Castleacre, who was one of the best farmers in the country, used to say that visiting each other's farms was one of the most profitable occupations in which farmers could engage. That gentleman had never grown a crop of tares, but when he saw what he (Mr. Mechi) was doing in that respect, he ever after grew 30 acres a year, and acknowledged a great saving in oats (Hear, hear).

Mr. H. TRETHEWY (Silsoe) said he adopted the system of the late Mr. Fisher Hobbs, whose name was known to most persons in the room. His plan was to sow in August, strike the cabbage out in November, plant them out in February, and about July or August they came into crop, and went on from that time till Christmas; and every year he had had cabbages from about June and July till Christmas. Mr. Cadle had alluded to the value of cabbage in May, but in May with him they were not wanted so much, as they had generally good grass at that time. With him the short time for grass was July and August, and then the cabbages came in useful; but in the grazing counties of Leicester and Northampton the grass lasted longer than elsewhere, where the dry seasons rendered artificial food necessary. In planting the cabbages he sometimes planted them on the ridge, and sometimes at every third furrow; and he found it a good plan after drawing the plants from the beds to drop them in liquid manure, and had succeeded very well in that way. The gentleman who grew the most cabbages and who did it the best in his neighbourhood, was Mr. Charles Howard, who also went in for spring cabbages that sometimes came to a second crop, but he himself had found no good from a second crop, which came too late in the season. The next point was, that when they had found a good sort to keep it up. As soon as the cabbages were formed he usually went round with a man who took some sticks and stuck them into the selected cabbages. He went in for purples in the first place, then for a good flat-formed and close-grained cabbage. All these were kept for seed. He did not grow the seed himself, but he selected two or three cottagers who did not keep bees, and he gave them the cabbages to grow for seeds. He had improved his cabbages in that way. Gas-water was no doubt a very powerful manure, but difficult to get, because there were few places where it could be obtained. Reference had been made as to the exhaustive nature of the crop. If he understood Mr. Cadle's argument it was, that the cabbage crop was an exhaustive crop, and that was just the drawback to it, because it was difficult to know what to do with the land afterwards. They might grow turnips afterwards and manure the land, but

there was always a bad crop after cabbages. Mr. Cadle had very properly united with the cabbage the kohl-rabi, which was comparatively a new plant, and was one of the greatest boons they had had for a long time. In the neighbourhood in which he resided they could grow swedes and turnips, kohl-rabi and mangold-wurtzel, and they got very good crops indeed. The kohl-rabi would grow on the stiffest clays, and on the hottest sands. He had seen it grow on both, and instead of growing out of the ground, as it used to do when he first saw it (when it was a great plant, and about six inches up, with a lump about as big as one's fist and a great top), it was now, through cultivation, as pure as a swede, and quite as heavy, and a great deal more nutritious. Kohl-rabi was sown about the middle of April, and on until June, and the sheep were put on to it in September. He saw some excellent sheep feeding upon in September last year, and doing remarkably well. They all knew that kohl-rabi stood the winter well. The past severe winter had killed some, but still they had stood it well, and they could at all events say that it was a remarkably good substitute for swedes. He did not quite agree about transplanting them, because he saw no necessity for it. They might save a little in seed, but they would lose more in labour. He generally allowed six or eight or ten tons of farmyard manure, supplemented by artificial manure; and if he wanted early feeding he began in April, and if late feeding in June. The early sown would not stand the winter so well as the late sown.

Mr. J. TRASK (Northington, Alresford) said he did not think cabbage was an exhaustive crop. Mr. Cadle had quoted a letter from Mr. Saunders, of Watercombe, who stated that from ten years' experience it was not an exhaustive crop. He believed that all crops from which a heavy amount per acre was expected must exhaust the manure put into the ground. He believed with Mr. Mechi (though he was not one of his disciples) that the more exhaustive a crop was the better it paid. Mr. Cadle had quoted a letter from Mr. Stratton, in which he said he had grown cabbage, and had used it as an autumn crop feeding his lambs with it, and that he had sold them at about six months old at £3 a-piece. In Hampshire they did not pretend to be clever fellows, and did not stick to the four-course system, which was pretty nearly exploded. If they wanted cabbage they put in as much manure as the ground would carry, and then they could grow them. He did not agree with Mr. Cadle that the winter planted cabbage was the best; at all events he did not find it so. What Mr. Saunders had said about growing plants from the seed in sheltered corners, then transplanting them after the swede crop, and letting them come in the autumn for food, was the plan he had found to be the best, because if they were then well manured they would turn out a pretty good crop. With regard to the young man who had followed Mr. Cadle, and who had read the *Mark Lane Express*, he (Mr. Trask) hoped he would continue to do so, because he would thereby learn both something to follow and something to avoid, and he would learn that there were other things he should follow besides growing cabbages.

Mr. H. NEILD (Lancashire) said this subject of cabbage crops was one of importance throughout England. He came from the north, and there were two points of view from which the question might be looked at; viz., first, the very important one of the consumption by their stock, which was the primary consideration of all farmers; secondly, if the farmer resided near a large town, the consumption by the population in towns, especially when potatoes were scarce. In the north they were led to consider the growth of cabbages in consequence of the hundreds of tons of cabbages brought into the markets of Manchester, and other towns in Lancashire, from Worcestershire and Warwickshire, and other more favoured districts of England. He was rather jealous of quoting the prices which cabbage crops might fetch, because he did not know what landlords might think about it (laughter); but when he heard that Scotch cabbages sold for 3d. a piece, he thought the cases were exceptional, and ought not to go forth to the public as being the general experience of farmers (Hear, hear). He had sold cabbages for the market at £25 an acre, but he knew that in different localities matters were entirely changed, and what was one man's experience might be another man's misfortune. But he would say, whatever they did, let them grow cabbages, for it was one of the most profitable crops they could grow; and whether they followed Mr. Mechi's plan of giving them sewage or not, let them give them plenty of water.

Mr. T. HORLEY (Leamington) said what he knew of cabbage cultivation he learnt from Mr. Randell, of Worcestershire, one of the best cabbage growers, on heavy land, he ever knew. It was very important, as Mr. Cadle had said, to have a good stock; and Mr. Trethewy had given them a good lesson in selecting the seed by having it grown under their own superintendence. He believed the best plants in the world were to be got from Scotland. For deep cultivation in the autumn there was nothing like steam, but as regards the rolling he did not agree with Mr. Cadle, for if the land was in good tilth it was better than rolling, and the plant was better without it. As to the quantity of manure to be used he thought Mr. Cadle in putting it at £2 an acre had not bestowed sufficient attention to the subject. He did not manure heavily, but he should never put less than 15 tons per acre; and he disagreed with the artificial manure in the autumn. There was nothing like good Peruvian guano to be applied in the spring when the plants were beginning to grow; but as it is now almost impossible to obtain good guano, it is important that whatever artificial manure is used should contain a good percentage of ammonia. In the winter the cabbage did not require more sustenance than it obtained from the soil. No doubt cabbages were gross feeders, and too much manure could not be applied when the plants began to grow. It was desirable, he thought, to have a succession of kinds of cabbage to follow each other. They could not expect to get them often before June, unless in soil of very high condition. They might then be grown in succession in small relays, so as to have them entirely through the winter. His practice was to plant out a portion in the 3rd week in October, but the ground must be entirely free from game and rabbits, or be protected by netting. The produce would depend on the cultivation, and the state of the land. There was one point which should not be lost sight of, that cabbages were a healthy food for young stock. There was nothing on which lambs could be fed better; but there was a limit to it, because as soon as the cabbages began to vegetate in the spring they became bitter, and ewes and lambs would then eat them only when positively compelled to do so. He believed they were a useful crop. They took a good deal out of the land, and required a good deal put in; but they were like mangold—and if they had a good produce from it, they could afford to put something in in return. No one was better able than Mr. Trethewy to speak of the kohl-rabi. Bedfordshire was a good county for it; and anybody passing through that county must see the amazing extent to which it was being grown. He believed one gentleman had grown 40 acres of seed in that county. The amount of capital employed in the growth of various seeds in Bedfordshire must be enormous, and it was important people should know where they could get the best seed from.

Mr. MECHI said he forgot to say that after tares came clover, with an interposing crop of cabbage.

Mr. GLENNY (Barking) said that if a good crop of cabbage was wanted, manure must be put on, not to the extent of £2 an acre only, but to the extent of £8 or £10 an acre. It had been said that cabbages had been sold at 3d. each, but he had been glad to send them to King's Cross to be forwarded to Manchester, for 6d. per dozen. In planting them he had two men to do it, and that cost 5s. to 6s. per acre, without counting the labour of boys. Two men with lines to guide them would do an acre per diem easily. The plants were placed about two feet square, and were planted out about Michaelmas-day, the seed being sown in August. This had reference to the smaller sorts. At the Lodge Farm, Barking, they were planted about sixteen or eighteen inches apart; and a friend of his offered £35 an acre for them, and could not get them; but that must not be taken as the average price. With regard to sewage, he believed it was valuable for all green crops, and a most useful help. It had been applied to onions on Britton Farm, and they had sold for £40 per acre.

Mr. MECHI: I think £60 or £70 an acre.

Mr. GLENNY said he thought the price was £40, but these prices must not be taken as the rule. The cabbage seed should be sown, and then the plant transplanted. They should never be sown where they were meant to be planted.

Mr. OWEN (Clapton, Berks) said he was a novice in growing cabbage and kohl-rabi, and came here to know how to grow it. He believed it was a most valuable crop, whose value consisted in coming in just when other roots were not available. He could bear out what Mr. Horley had stated. He never saw

better management in growing kohl-rabi than that of their last year's Chairman (Mr. Howard), and after seeing that he went home dissatisfied. There was scarcely a root of the sort grown in his (Mr. Owen's) county, and he determined that if his health was spared he would grow kohl-rabi, and he only wanted to know how to grow it. It was quite right that if they grew a root crop that each pound spent on manure would yield twenty per cent. (Hear, hear). Root-growing to him was the most interesting of all farm operations. He had some ten or twelve acres of cabbage, which were what were called the "Thousand Head." His next neighbour grew about thirty acres of them, and they weighed some 20lbs. to 30lbs. each. He had been more fortunate than some of his neighbours. He planted the cabbages in October. He sowed them in the most exposed place. Instead of being sheltered, they faced the north; and he had 100,000 plants to plant out, and was waiting for rain, but the plants stood a good deal of dry weather.

Mr. R. LEEDS (Brandon, Norfolk) said this was the first year he had grown cabbages, and he wished to give a little advice how not to grow them (laughter). He had a friend who understood how to grow the seed, and to transplant the plants in autumn. He sent for them in November, and he planted out 35,000 plants, which were now growing, with the exception that out of the 35,000 about 25,000 had run away (laughter). Therefore, he advised cabbage growers to be a little more particular than he had been in planting them out. He was told that his seed was sown a little too early, and that they came a little too forward for the season. He was quite a novice at the business, and he was sorry to say his four acres of cabbage were little or no good.

Mr. MASFEN (Wolverhampton) said it was not his intention to speak, but Mr. Cadle had read a letter from him, but had not added that he had said that few people knew less than he did about the subject. He had been in the habit of growing cabbages for the last six or seven years; and no one who had grown cabbages would say they were not one of the most valuable of our esculents. He did not, in fact, know the month in the year when cabbages were not valuable on a farm. The gentleman who had said they were not valuable must have lived in the land of Goshen (laughter). He could not have endured the severity of the past few seasons, when the farmers had not a blade of grass, and when the stock would have been all the better for a feed of cabbage. As far as he could judge he believed the smaller kinds of cabbage were the most valuable. They came early, and, if carefully cut off, there would be a second crop, which would come in very advantageously. His principal reason for rising was to explain the difference between the plants he had from Scotland and those he grew himself. He had had 15,000 within the last week from Scotland. Some of his own were selected on the same principle as had been explained by Mr. Trethewy; but the difference between the two was as great as the difference in the width of the shoulders of the smallest and the largest man in that room. He should like to know how this difference arose, because he was much struck with it. He was also much surprised in the difference in the weight. He had had equal loads of the two kinds weighed, and one was only 9 cwt. and the other 16 cwt. This was a very startling difference, and he was at a loss for any explanation. One gentleman had spoken of the desirability of dipping the plants in a little liquid manure. He had a tub in which he put liquid manure, and he saturated the plants before putting them into the ground, and it had an excellent effect, particularly in a dry season, and prevented the loss of thousands of plants. He was glad Mr. Cadle had introduced this subject, because the subject was a national one, and particularly important when they suffered from drought, and wanted to know how to keep their stock during the summer months.

The CHAIRMAN said he thought the subject had been discussed fairly and satisfactorily, and that there was little to add; but he desired to draw attention to the difference between the cabbages and other kindred plants of the North and of the South of England. Any farmer growing the two sorts in the same field would perceive a vast difference at once. The turnips or swedes from South of England seed would run away two or three weeks earlier than that grown from North of England seed. He could not explain it, but such was the fact. Again, kohl rabi and other roots that were natives of northern climates,

became more tender when grown in a southern climate under high cultivation, and were less proof against frost. With regard to cabbage it grew deeper in the soil than swedes, and threw out more roots, so that the larger the quantity of manure put in the more the cabbage would absorb, and the more profitable the crop would become, and so he contended that manure could never be misapplied to cabbage. Cabbage and kohl rabi were the most interesting crops to grow, and he hoped the time would come when they would be stored and used all the year round, instead of only at particular seasons of the year.

Mr. CADLE, in reply, touched lightly on some of the remarks which had been made. He believed the end of May was one of the most critical times, at all events for farmers on light lands, because they had to keep their meadows for mowing, and hence a difficulty arose in feeding the stock. If they had a stock of cabbage at that time it would be useful, but it did not follow that they would be obliged to use it if there was plenty of other food. As to the exhaustive nature of the crop, anyone who grew sixty tons an acre of roots or any large crop, must find it would be exhaustive, because the larger the crop, if taken off, the greater exhaustion of the soil. They wanted to grow exhaustive crops. That was just the point. It was the last ten bushels of corn, or the last ten tons of roots that brought the profit (Hear, hear). With regard to the season for culture, his experience had been that the cabbages were wanted mostly in May or June, because in the autumn they had got turnips and other things, and did not want cabbage so much. Mr. Neild spoke of his jealousy about quoting prices. That was true to some extent. Mr. Horley had spoken of not rolling the land, but on light land rolling was necessary, as they wanted to get the land as fine and firm as possible. With regard to manure, no doubt the more they put the better for the cabbages; and in his estimate he had taken no account of the farm-yard manure that would necessarily be used. As to width of planting, he adopted the plan of planting with a space of 27 inches between the rows. Running to seed was an important point. The old gardening books showed the time for planting the seed must be between the 6th August and the 12th. As to the difference in the energy of cabbage running to seed, he could quite believe Mr. Masfen; and the same thing occurred in plants from North or South with Italian rye-grass recently imported, which grew much faster than seed grown in this country. With regard to storing he had heard of several plans; one was that of hanging cabbages downwards on poles, but this is impracticable with large quantities; however, he hoped some practical method would be discovered, so that they might have cabbages both in winter and summer (Hear, hear).

Mr. MATSON protested against the personalities in which Mr. Trask had attempted to indulge. Such a course could only tend to lower the tone of meetings such as those of the Farmers' Club.

A vote of thanks to Mr. Cadle for his paper, and a similar compliment to the chairman, concluded the proceedings.

NEW MEMBERS.

Elected, Monday, March 6.

E. J. Athawes, Barton-Ville, Beckenham.
W. Aveling, Rochester.
G. R. Castle, Bicester.
G. C. Coote, Tortington, Arundel.
W. Hudson, Crowborough, Sussex.

Elected, Monday, April 3.

H. Dodd, The Hall, Rotherfield, Tunbridge Wells.
T. Gearey, Great Westwood, Watford.
W. Glenny, Cranbourne Lodge, Barking.
J. S. Leighton, Loton Park, Shrewsbury.
G. F. Muntz, Umberlade, Birmingham.
J. Thornton, 15, Langham Place.
W. Wakefield, Fletchampsstead Hall, Coventry.
A. C. Wheeler, Kingsholm, Gloucester.

LAVENHAM FARMERS' CLUB.

FOREIGN FARMING.

At the last meeting, Mr. T. P. Hitchcock in the chair, Mr. WILLIAM BIDDLE, the President of the Club, said: When we take an "outing" for pleasure, it is best to leave the "shop" at home, and give full range to the new ideas and reflections which will arise upon our way. I, on the contrary, having been always curious to see a little of the farming on the Continent, determined it should be one of the main points for observation in my recent trip there. What I propose to do this evening is to give the Club a few notes of what I saw, and my reflections thereon, which form the great pleasure of travelling—the quietly at home digesting the rough facts we gather when abroad. I will give my route, and the time it took, that the Club may judge of the limited opportunity I had of obtaining a knowledge of foreign farming, and value my observations thereupon accordingly. July 9th last I started from Harwich at 9 p.m., reaching Antwerp at 12 the next day (Sunday), after having had the opposite of a very enjoyable voyage; my discomfort being greatly enhanced by the fact that I was nearly the only one ill on board. For the last forty or fifty miles, we were in the river Scheldt, whose high banks for confining it from the low lands adjoining prevented me from seeing anything of the Dutch farming upon its borders. On the 11th we sailed on by Malines and Liege, passing out of Belgium by Aix-la-Chapelle on into the Prussian states to Cologne and Bonn. From Bonn we took a steamer and went down the most beautiful part of the Rhine as far as Mayence. Leaving that by rail, we looked in at Worms, passing over the Rhine at Mannheim (where we walked through the cavalry stables, and saw the horses enjoying stale straw), and proceeded to Heidelburgh, by Carlshue, and on to Baden; through this State, on to Friburgh, where we took a carriage and passed through the Black Forest by St. Blasiers; again joining the rail and Rhine near Walshunt, travelling onwards into Switzerland to the blue waters of Zurich. From it we sailed on to Zugg, which we left by steamer on to Aith and Goldo, where we saw the great landslip. Here we took saddle-horses, and ascended the Rigi, on whose top (5,900 ft. above the sea) we slept; descended on foot down to Wiggis, from thence steamed down the splendid lake of Lucerne to Fluellin. Falling back to Lucerne, we left by carriage to Meyringin. After seeing the grand waterfall illuminated, we proceeded on horseback across the great Shidech to Grindenwald; after viewing the glacier here, and walking into a cavern, in its base, twelve or fifteen yards long, formed entirely of ice, we rode over the Wingern Alp, 6,690 ft. high, down to Lauterbrunn, where, after looking at the noted waterfall, we passed on to the fashionable Jula Laken, on to Thun. After viewing one burning hot day, the bears of Berne, we left Switzerland, by Neuchatel, passing into France at Pontalier, on by Dôle, Dijon, and Fontainebleau (where, from seeing such fine trees, my conceit of English oaks was greatly diminished) on to Paris; leaving by Amiens and Boulogne, we reached England at Folkestone. I saw little at Paris of interest in an agricultural point of view, except the enormous carts; the weight carried by them is extraordinary. My brother, who was concerned in a foundry at Tours in 1840, informs me that some machinery weighing from five to six tons came 200 miles from Dieppe in a single cart. Upon getting well out of Antwerp, the first thing that strikes an English farmer would be the extreme smallness of the plots into which the land is divided. The farms in Belgium average $11\frac{1}{2}$ acres each, according to Howard's book on "Continental Farming," a work all interested in the subject should read—it is full of information, especially as regards cropping and wages; from it I have drawn somewhat largely in getting up this paper. Until I reached France, where I observed much bolder farming, I should think two-thirds of the arable land I saw was cultivated in plots, not averaging more than one and a-half acre. I suppose the divisions of ownership are well delineated on official maps, as I could perceive no posts—mere balks, or fences to indicate the divisions. This extreme division of land

effectually prevents any costly or expensive machinery or implements being used. Steam machinery is, of course, entirely out of the question. It, I might say, in every way impedes good farming. As nearly half the land is farmed by its owners, this style of farming is not likely to be altered. To make it worse these small plots are often a long way from the homestead, leading to what a former reader at this Club would call "a waste of force," it taking the farmer ten times as long to walk to get the cows a bushel or two of grass as it did to cut it. From there being no fences (in many parts not even to fence the railways in), and but rarely water, grazing the land is quite out of the question. What necessity compels to be done there, it might be useful for us to follow here, viz., soil our green crops under cover in the summer time. We take great pains to obtain manure by winter grazing our roots, very often greatly injuring the land by carting them off. The fact that summer-made beef sells at from (coming at a scarce period) 1s. to 1s. 6d. per stone more than winter-fed is a weighty reason for making it in summer. A stranger would be apt to conclude no stock were kept; but though there is very little grazing going on, a good many cows are fed, the only indication of which you see, when riding, is their stern ends visible through the doors of the homestead, which is generally included under one large wood building, embracing the house, barn (generally on the second story approached by an earth incline), waggon-shed, cow-house, piggeries, &c. This construction is favourable for the collection of the liquid manure into one cesspool, which, with the heap of manure, is usually placed within a few feet of the door of the house. Its contents are carted to the land in a long cask, placed in the railed waggon, when any produce requires to be brought home, as back carriage. This invisibility of live stock I noticed especially in a valley of Grindenwald, where Murray, in his guide book, says thousands of cows are fed. Probably some of them were grazing on the mountain sides high up. At Thurn we were gratified to hear the peculiar hum and dingle kept up late at night and early in the morning by the bells on the necks of the cows forming a large dairy which were not turned out at all at midday. Indoor feeding is sometimes pursued too far. At the University model farm at Bonn, the sheep were huddled together in a barn-like building with other stock. Observing some Southdowns of some pretensions, I found they came from England. I could but think if the ghost of Tom Crisp were there how he would shrug his shoulders at the pig-like treatment of his favourite Southdowns. Even here, where English farming had been successfully copied, I was surprised to notice a gang of harrows with wooden teeth. The variety of crops grown in some parts of Germany renders a ride through it very interesting. For instance, within a few miles of Heidelburgh (where women sold the railway tickets), I saw, with the exception of beans, nearly every crop required to clothe, feed, and amuse mankind, embracing the vine, the usual corn crops, potatoes, beet (whether sugar or not I could not discern), maize, rye, tobacco, the universal lucerne, hops, clover, lupins, poppies, cole-seed, kohl rabbi, and frequently flax and hemp. In Switzerland, where money is decidedly scarce, the aim is evidently to render the occupier independent by growing all he requires. Economy pervades all their doings. As a specimen, the naves of the wheels were in some instances done up in straw or bad hay, to prevent the sun's acting upon them. In Heidelburgh, I was amused at the agricultural carriages. A cart, or any two-wheeled vehicle was rarely seen. The light-railed waggon, whose buck here would cost about 30s., answered every purpose. When earth was to be conveyed, a long bullock-like trough was placed in it; when liquid manure, the long cask I before named. Most of them had breaks attached, as the cows or cattle by which they were drawn are, I apprehend, not good at down-hill work. The pole, instead of shafts, did very well, except, as was frequently the case, when only one ox was used, then the whole set-out looked very awkward. Frequently

cows in full milk were drawing them. This seems somewhat cruel, but I have no doubt the cow was much happier, and its produce more wholesome than the London cow and its produce. Indeed, comparing its lot with many of those in this country, it appears in no way inferior. These worked cows were evidently well fed and cared for, both in kind usage, and in having their food prepared for them, and living in well-sheltered homes, whereas we here frequently see cows whose whole day is taken up in searching over meagre pastures in a hot broiling sun, for a necessary supply of food. Drawing waggons, I observed some good wide half-fat bullocks, which were evidently well-satisfied with their position in life. I think it is quite open to doubt whether we have not too much displaced cattle as beasts of burden. To be sure where ploughing was being done by cows the soil was of a tender pliable nature. Indeed, I saw no land, excepting in France, compared to our heavy clay lands in the difficulty of cultivation. Were I a small farmer of light land, I should certainly consider whether the cow should not help the horse in ploughing it. The cattle were far better than the estimate I had previously formed of them. Upon the top of the Rigi, one of the most known mountains in Switzerland, I saw a large dairy of very superior cows, fawn-coloured, with dark points, wide and short-legged, with apparently a good disposition to fatten. The management of the mountain dairies is as follows: In spring they eat the grass from the low and frequently irrigated valley grounds, which produce three crops in a year. As summer advances the cows are moved higher up, so that in the hottest period the highest grounds are fed, approached only by horse and cattle paths. For a few months the dairy itself in many cases is moved to near the top, and the cheese and butter is brought down by horse or hand, chiefly by the latter. As autumn advances the cows occupy a lower level. In the winter they are shedded in the valleys below, when I expect they have a hard time of it, for the extent of arable land is small, as well as of mowable grass, therefore the supply of roots, hay, and straw is very limited. For litter leaves are collected and preserved. Hay is much thought of, collected by considerable labour, and is frequently carried a long distance down the mountain sides in nets, on the backs of men. Where there is much of it, you see numerous wood sheds for its reception, very like the cottages or chalets, with boards for roof, kept on by large pieces of rock placed upon them. I observed at nearly every homestead the sledges laid up, ready to be brought out in winter for conveyance of hay and fuel, &c. The scarcity of hay, and the difficulty of its carriage, have, I suppose, led to the plan of baiting horses upon slices of coarse rye bread. Our coachman carried his with him, and very quickly baited his horses with it. It appeared to differ in appearance very little from the loaves strapped upon the backs of the Swiss soldiers we saw assembled at Zurich. It is extraordinary how, in high elevations, wheeled carriages are dispensed with. It seems surprising how an hotel, like that on Rigi, capable of accommodating 300 people, can be carried on when all its supplies, including, I think, the water, have to arrive from far below on the backs of men and horses. In passing through the Black Forest we saw agriculture in its primitive state, still the splendid roads kept up by the Government had done a good deal to modernize the parts we passed through. In some districts, the roads, I believe, were self-supporting. As there were no toll-gates this seems paradoxical. It is by the fruit trees which grow upon the narrow wastes by the sides, and which, from there being no hedges, seem to thrive, and they were carefully kept and renewed when necessary. Assuming an apple tree to be worth to rent 6d. a-year, and that one was planted on each side every two rods, there would be 320 to a mile, which at 6d. each would yield £8 a year per mile. This probably might keep up the road, as the material is formed from the rocks adjoining, and labour is very cheap. Still the boring and blasting of the rock is expensive. This paper is much too long for an introductory one. I will, therefore, terminate it by stating that on looking again in old England, I was satisfied that, generally speaking, neither foreign farming or crops were equal to our own. At the same time it is but fair to state that I observed no greater waste of labour anywhere than when I saw in Kent four good horses on a plough, ploughing up a failed plant of turnips when the land was very dry. In conclusion I hope to hear the following points discussed: The propriety of summer soiling your own green crops

—of working cattle—of growing a greater variety of crops—depending less upon wheat, barley, also the desirability of growing fruit in a more commercial scale than hitherto.

Mr. R. EDGAR did not go so far as Mr. Biddell, only reaching Hamburg. He did not call what he saw farming at all. As to the state of the land, he felt that an old hen would have scratched, and made land in as good condition as that he saw. It was more like gardening than anything else, and he certainly saw nothing equal to English farming. It might be said that he was rather prejudiced, being a British farmer himself. He believed the best farming was in Belgium, and he had been on to a farm of 2,000 acres, and there were many acres of sugar beet. His opinion, however, was that better sugar beet could be grown in England than abroad; but as to whether it was a paying crop, the seasons had not yet been sufficiently favourable to enable them to determine. He saw no grazing. He observed a few sheep under cover on the farm he had spoken of, and they were nasty things, such as he would not have killed. There was a cross between a good and bad bred sheep, and as for the mutton it was not worth eating, which was hardly to be wondered at, considering the description of the sheep. He saw about sixty of them in a shed not much bigger than the room in which the members of that Club were now assembled, and they did not look fit to eat, or as if they ever would be.

Mr. W. BAKER should think from the description of the trip that Mr. Biddell went through the richest and best parts of the Continent, and yet there appeared to be nothing to recommend to the English farmer; but had he gone on to the high land, he might have been much more surprised at what was to be seen. As far as the ploughing was concerned, he (Mr. Baker) felt that no cattle could plough the land there, but soil near the river was generally of an alluvial character. With reference to some of the spots which had been referred to, there could be but very little waste land, the plots being small the whole of the land was cultivated. He should like to know if Mr. Biddell saw much wheat and barley cultivation, and whether the cereal crops appeared anything like those in England.

Mr. MANFIELD thought he had seen some foreign farming as good as that in England, and he had seen some as bad. In Belgium he noticed that as they were cutting they were carting, and ploughing the land at the same time; and it was quite evident that there was no intention of allowing the land to remain idle. He observed that the women did a large part of the work. The horses were very much better than he expected to see: they were not chesnuts, but he believed they would do quite as much work as the Suffolk horses of that colour. His observations in France did not lead him to suppose that agriculture there was in a worse condition than in Belgium. As to the several points on which Mr. Biddell had invited discussion, he (Mr. Manfield) might say that he thought that although the use of oxen was rare in this country, there were instances in which they might be used with advantage. In regard to the diversity of crops, it should be remembered that there were much more labour and more hazard, and he thought they were much better left alone. And then in reference to fruit, his experience was, that if he grew a large crop of apples they were just about worth the gathering.

Mr. HUSTLER had seen a good deal of ploughing with oxen in Essex, but the great drawback was that they were so very slow, and it made no difference in the speed whether they ploughed three or nine inches. It was true that they were kept at a very cheap rate when they were not used, and they would feed on straw and inferior hay, which horses would not touch.

Mr. W. VINCE (Brent Eleigh) said that the objection to the use of oxen was that they were such slow coaches, and it must not be forgotten that a man had to be employed whether the animals used were slow or fast. A friend of his when he first went to his farm used four pairs of bullocks, but he very soon got tired of them, and obtained horses instead, and now he used steam ploughing. He (Mr. Vince) certainly thought it would be going backward if the use of cows were re-introduced into England. As had been said, the farmers on the Continent were not yet so far advanced in farming as were the farmers in England, but in the course of time they might make great improvements and progress in the art of farming.

Mr. TALBOTT said, that with such small farms as there were on the Continent, it was impossible that there could be any-

thing like prosperity. Look at Ireland, for instance, where there were such a large number of small holdings, and it was impossible that improvements should take place. He thought there was a lesson to be learned from their foreign neighbours in regard to the treatment of stock, and it appeared to him impossible that animals turned out as they were in England into the fields in the hot days of July and August, and terrified with flies, should do so well as if they were in convenient places of shelter, as they appeared to be on the Continent. The production of poultry and eggs was a matter that ought to claim some attention. It did not argue a high state of farming where these things prevailed to a great extent, but he looked upon them as essentials to small farmers.

Dr. WHITE said that the production of eggs and poultry did not pay the large farmer, because every egg that was produced was robbed by the wife from the husband, and therefore it did not pay both ways. On the other hand, if a small farmer had a wife who reared a large number in the course of the year, and took them to market and made the most of them, they would no doubt prove profitable.

The CHAIRMAN said abroad the holdings were generally small, and the system of agriculture adapted to small farms. The pigs, poultry, and the eggs would almost make up the farm. These small farmers, however, it should be remembered, sold everything; they did not eat the eggs, but they lived very badly. There was a district bordering on the sea, in Flanders, where the people lived very much worse than the peasantry in England. As to the use of green crops in the sheds, there were certain large farms where that was done, the great object being to make butter to be sent to London. He had been in a shed where there were two hundred cows, and there were two hundred and twenty days in the year when they had to be fed artificially. They were then put on corn or cake, or what might happen to be the cheapest at the time. On the large farms in some parts of Germany the greater proportion of the male population were soldiers, and a good deal of the work was done by women, who might be seen carting and emptying muck, which was hardly a thing we wanted to emulate in this country. In the north of France the growth of sugar-beet was a great source of prosperity. On other parts of the Continent a farm was not sold, as sometimes in England, by the one thousand or five hundred acres, but in little pieces of ten acres, the desire of every man being to be a landowner, and the price paid for the land was sometimes almost fabulous. The competition was very great, and if a man could not buy a spot of ten acres there

were others of five acres; and if he could not get one of them there were others of one acre, and this accounted for the state of things existing on the Continent. As to the use of cattle, it was not a question as to whether one animal worked faster than another, but they should be treated as an auxiliary to a farm and used when wanted. Instead of keeping so many horses, if cattle were kept to come in for use just when they were wanted, they might be found very convenient.

Mr. BIDDLE, in answer to the question as to whether he saw barley growing, remarked that he saw it everywhere, but he thought the sample was rather indifferent. Rye was the main white straw crop, and that did not appear to be better than that which was grown in this country on much poorer land. With reference to the use of cattle he did not think he should recommend it unless it was in certain cases where a man occupied twenty or thirty acres, and he might find it to his advantage to use cows as an auxiliary to his horse. Many of the farmers he had referred to were too poor to keep a horse, and they kept a cow because they got a profit another way. He should have liked to have heard a little more discussion on the subject of getting manure out of the green crops in the summer time. Was it not possible to make beef and manure in the summer time by following the example of the foreigners, that was by mowing green crops off and feeding the cattle in sheds? Animals wanted less food in the summer than they did in the winter, and if they could be kept in a barn would they not make quite as much beef in the summer as in the winter? It was certainly an open question whether the farmers of this country might not do more in this direction than they did at the present time. Green crops would not be half so expensive as the turnips which farmers now grow. Summer beef was much dearer than the winter-fed. Taking the last twelve years the summer-fed beef had sold at a shilling per stone more than the winter-fed, and he questioned whether it would not answer their purpose to consider if they could not do something towards making more summer-fed beef. Reference had been made to the propriety of introducing a greater variety of crops. He did not mean to say that this should be done when corn was high, but on the Continent within a few miles you can see nearly every conceivable plant grown. He did not look upon it as hazardous, because if one crop did not pay the other might. He thought it possible that the time might come when we in England should think it advisable to grow a greater variety of crops.

A vote of thanks was passed to Mr. Biddell for his paper.

THE TYTHE SYSTEM.

At the last meeting of the Hungerford Chamber of Agriculture the attendance was very small. Mr. John Hellard presided, and Mr. J. A. WILLIAMS, of Baydon, read the following paper on "The Tythe System, as it Affects the Tythe Owner, and the Occupier of the Soil:"

Having been requested by your Committee to read a paper this month, and hearing several complaints from farmers of the hardship of paying so much Tythe as they have to do such a disastrous season as this has proved, I thought the subject would not be out of place if brought before the Chamber for discussion, to see if the present Law as relates to Tythes (which is generally admitted to be one of the best that has passed during the present generation), could not be so altered that both the Tythe-owner and the Tythe-payer may be mutually benefited. I admit the subject to be a very ticklish one in the present day, when we find the Prime Minister and the Government laying violent hands on the Church property in Ireland, and that no one has broached the subject in any of the Chambers of Agriculture, or the Farmers' Clubs; but I will endeavour so to approach it with justice and impartiality, recognising the true right and title to tythe, and holding to the principle of "Rendering to Caesar the things that are Caesar's, and unto God the things that are God's." I will begin then by showing that, although I take up this case on the part of the farmers of England who pay tythe, I fully

acknowledge the right and title of the clergy to receive it. If we look back to the first origin of tythe, we find the Patriarch Abraham giving tythe to that mysterious person Melchisedec, who was a priest not after the order of Aaron. We next find tythe given to the Levites when the Almighty established the Jewish Church, and ordered them "To build Him a sanctuary that He might dwell among them;" these are the expressive words He uses, "And, behold I have given the children of Levi all the tenth in Israel, for an inheritance, for their service which they serve, even the service of the Tabernacle of the congregation." The Prophet Malachi shows us that Mr. Gladstone had a precedent for what he did to the Irish Church, but he also tells us the fearful consequence to the Jews who robbed the Almighty of His tythe in these words: "Ye are cursed with a curse, for ye have robbed Me, even this whole Nation." It may be interesting to show the periods at which tythes were first paid in the Christian Church. From the time of our Saviour's birth to the reign of the Emperor Constantine, for three centuries, I can find no instance of any tythe being paid, and no wonder; for during that time forty Emperors of Rome filled the chair of the Cæsars; they were all of them Pagans, and the Christian church went through those ten fearful persecutions, which most of you are aware of; consequently it would be useless to look for any tythe as paid in those days, when kings were not "the nursing fathers of the Church." The first instance that I can find of tythe paid in

the Christian era, is in the year 356, when at a provincial synod at Cullen, "Tythes were voted to be God's rents." I am not aware of the precise time that they were first paid in this country; but it appears that those who paid them gave it to what clergyman they chose, or else paid them to the bishop, when some of the clergy were so badly off, that about the year 1,200 Pope Innocent III., in a decretal epistle sent to the Archbishop of Canterbury, enjoined the payment of tythes to the parsons of the respective parishes, where every man dwelt. Tythes have often been tampered with by the laity, or the State; one glaring instance of which I will mention. In the reign of King William Rufus, who was an enemy to the Church rather than a "defender of the faith," he kept the See of Canterbury (which was vacant) void for four years while he plundered its revenues; of many other bishoprics (among them the See of Salisbury) as they became vacant he took the revenue into his own hands. Anselm, who was afterwards made Archbishop of Canterbury, told him "The Church is yours to defend and guard it as a patron, it is not yours to invade its rights and lay it waste, it is the property of God, and His ministers may live of it, not that your armies and wars should be supported from it." History tells us of the death of this king, and had he not been guilty of sacrilege, the arrow of Sir Walter Tyrell, which glanced from a tree to the king's heart, might possibly have been guided another way. I have given this brief account of the origin of Tythe, simply to show that whatever measures may be taken to amend the present law, we should bear in mind the sacred purpose for which they were instituted, and render equal justice in any alteration that may take place. The Tythe Commutation Act, which now regulates its payment, has been in operation for 35 years, and previous to that period, unless an arrangement was made with the clergy by compounding for them or renting them on lease, they were taken up in kind. I can remember the tythe-bough being put up in every tenth cock or shock, and those being left in the field as the tythe owner's share. In a wet season these were often much damaged, as they could not be carted till after the farmer had carried his own; many of you are also aware of the ill-feeling that too often existed between the clergyman and his parishioners on this subject, and you also know what a hindrance it was to good farming, the farmer well knowing that whatever expense he went to, one-tenth of the extra produce was not his own. It was no wonder, then, that any law which would alter such a state of things would be welcome, and I think everybody was pleased when the present law was passed. It appears from the Act 6 and 7 William IV., for the Commutation of Tythe, that the owners of the lands subject to tythe met together and agreed with the tythe owner what sum he should receive from the whole parish in lieu thereof; they then chose valuers to apportion the same to each farm, and to value it as one-third in bushels of wheat; one-third bushels of barley, and the remaining third, oats. The 37th clause in this Act enacts, "that the value of tythes is to be calculated upon an average of seven years;" and here is the great mistake in the Bill which in every other respect appears to be perfect. There was an Act passed the next year, the 1st Victoria, to amend the first Act, but the working of the Septennial Clause was not then known, and consequently it has remained as enacted to the present time. I will now attempt to show how adversely this 7 years' average acts for the interest of the tythe owner and payer; and the complicated system it appears to be, when a simple yearly average would answer a better purpose. The 56th Clause of the Act is as follows: "And be it enacted, That immediately after the passing of this Act, and also in the month of January in every year, the Comptroller of Corn Returns for the time being, or such other person as may from time to time be in that behalf authorised by the Privy Council, shall cause an advertisement to be inserted in the *London Gazette* stating what has been, during seven years ending on the Thursday next before Christmas day then next preceding, the average price of an imperial bushel of British wheat, barley, and oats, computed from the weekly averages of the Corn Returns." As I said before, when the amended Act was passed, the working of this Clause was not known. We have now had 35 years' experience, and I think the price I have sold my corn for during that period (as I presume my brother farmers have realised about the same) will show, that this Clause is adverse to the interest of the parson, and also the tythe payer. I will illustrate it by the following table:—

	The Septennial Average from the Govern- ment Return.			Average of my Wheat for same period.		Average of Barley for same period.	
	£	s.	d.	s.	d.	s.	d.
1837	98	13	9½	48	5	33	11
1838	97	7	11	50	8	31	8
1839	95	7	9	61	3	23	5
1840	98	15	9½	71	6	39	8
1841	102	12	5½	63	9	32	0
1842	105	8	2½	62	0	31	0
1843	105	12	2½	56	1	28	2
1844	104	3	5½	51	1	28	0
1845	103	17	11½	48	10	40	0
1846	102	17	8½	48	3	27	0
1847	99	18	10½	48	0	26	5
1848	102	1	0	66	6	43	0
1849	100	3	7½	47	7	34	0
1850	98	16	10	35	8	28	4
1851	96	11	4½	37	2	22	0
1852	93	16	11½	36	8	25	9
1853	91	13	5½	41	1	28	0
1854	90	19	5	58	5	34	5
1855	89	12	8½	71	11	40	4
1856	93	18	1½	75	6	41	2
1857	99	13	7½	72	0	38	6
1858	105	16	3½	53	0	39	3
1859	108	19	6½	43	3	34	0
1860	110	17	8½	47	4	31	0
1861	112	3	4½	48	9	32	0
1862	109	13	6	49	0	33	8
1863	107	5	2	52	5	34	0
1864	103	3	10½	41	11	30	5
1865	98	15	10½	40	4	28	2
1866	97	7	9½	40	2	31	7
1867	98	13	3	49	0	33	11
1868	100	13	8	67	6	34	5
1869	103	5	8½	57	0	40	0
1870	104	1	0½	46	0	37	6
1871	104	15	1	43	3	36	6

It will be seen from the above table, that for the years 1838 1839, 1840, the clergy received on an average £97 3s. 9½d., while my wheat averaged 61s. 1d. Then for 13 years, to 1854, the system seems to have worked pretty evenly. I will now take the next four years, to 1858: the clergy received an average of £93 11s. 8½d. only, while the average of my wheat for the same period was 69s. 5½d. He had to buy a dear loaf of bread with considerably less than his £100. Now contrast the next seven years, to 1865. The clergy received each year an average of £108 5s. 7½d., while I received for my wheat an average of only 47s. 11d. The highest year of rent charge was 1861: my wheat that year was 48s. 9d., while the parson received £112 3s. 4½d. Again, the first five years of the past seven, which regulates the rent charge this year, is pretty even, but the two last, which will influence the next year's charge, is £104 8s. 0½d., while my average is only 44s. 11d. Barley and oats, of course, influence the price, but they have not varied as wheat has, and consequently I have not noticed them. As a matter of course, the above table represents only the average price of my corn, and cannot be held as the average of the country, but at the same time I have no doubt but it will approximate to the general average, which could be obtained from the Government returns. I might be told, Why trouble about this, as in the long run it finds its level and is the same to both parties? But this I deny: it acts unjustly in many instances, as I can shew. Suppose a farmer to take a farm in the year 1857, for seven years, he would have paid tythe rent charge annually of £108 5s. 7½d., with a moderate price of wheat, while his predecessor would have had the advantage of seven years low tythe with a high rate of produce. Now look to the other side of the question,—Suppose a clergyman to come into a living in the year 1851: for the first seven years he would only get an average of £93 15s. 6d., with wheat at the highest price during the 35 years, while his predecessor would have had the advantage of a high rate of tythe with a moderate price of corn! It is a curious fact, that since writing the above, I have met with Mr. C. S. Read, the M.P. for Norfolk, and he tells me that the case I have illustrated above was precisely his own; that he rented a farm in 1857

for seven years, and paid the amount of tythe I mention, and that afterwards when the tythe was lower he took another tythe free! I think I have shewn sufficient to prove the absurdity, as well as the injustice, of this Septennial Clause, and there could not be a more opportune time than the present to alter it, as, if you take the first four years, which was under the £100, and the four last years, which are over, the average for the eight years is £100 7s. 7d., so that no injury would be done to either party by an alteration, and the complicated system of bringing the figures of seven years to adjudicate the tythe rent charge for one, might wisely be altered this Session of Parliament; so that the rent charge of 1872 might be paid on the average price of wheat, barley, and oats, for the year ending Christmas, 1871. As a matter of course the tythe rent charge is influenced to a great extent by the mode of taking the corn averages. Our friend Mr. Chandler some years ago read a most practical paper at this Club on "The Imperfect Corn Returns." He there told us what I re assert, that they have never been properly returned: at that time returns were made, or pretended to be made, at 290 towns in England and Wales, and in many they made no returns, of some only from three to 20 quarters each, and I suppose this was the cause of the Government altering the system (by what law I am not aware, as I heard of no Act for the purpose); but they have now, as far as the farmer is concerned, "jumped out of the frying pan into the fire." If all the counties in England and Wales are treated the same as Wiltshire and Berkshire, we shall for the future have a high rate of corn returns. The Government has lately altered the system of taking the averages from so many towns, and chosen only one in each county, and this may be an improvement in one respect, as they may compel a proper return from that one; but why Reading in Berkshire and Warminster in Wiltshire should have been selected for these counties I am at a loss to conjecture, unless it is to make the tythe-payers pay more than a fair average. Devizes and Newbury ought to have been the towns selected. We all know that the finest quality of corn grows in the neighbourhood of Reading and Warminster, barley in particular, which all goes for malting, the rascally duty adding considerably to its value, and forcing the average of this article above its natural price. It appears from the Government returns that for the 35 years that the Bill has passed the farmer has paid for every £100, £101 ls. 7½d., and I believe that if justice had been done to the farmer by taking off the Malt Duty and obtaining a proper average, that this well-calculated Bill (barring the Septennial Clause) would have proved one of the most practical measures that has passed during the present generation. I will now leave the subject in your hands, hoping that you will thoroughly investigate it; and should you agree with me that it is a grievance, let us adopt a petition to Parliament to alter the Septennial Clause.

Mr. CHERRY said, he thought the fallacy that ran through the whole of Mr. Williams' address was this—that he had omitted to take notice of what was the intention of the Act, which was to make a fixed rent charge on the land and take the tythe as much as possible out of the uncertainties of the year. The way in which the promoters of the Act endeavoured to do that was to substitute for the tythe a rent charge payable by the landowner, and the great mistake of the Tythe Commu-

tation Act was that it did not make it compulsory that the landowner should pay, and that every tenant farmer should take his farm tythe free. Viewing the Act as having that object, it was certainly remarkable how well it had worked, but viewing it as between the tenant farmer and the tythe owner, it had not perhaps worked so satisfactorily. It appeared that the experience of the past 35 years had proved that the only variation from the apportioned sum had been about 1 per cent, and he imagined that if they took into their calculation the change in the value of money they would find there was no variation at all, £101 not representing now more than £100 did at the time the Act was passed. The object of the Tythe Commutation Act was to do away with the tythe anomaly, and make a rent charge on the land, and technically speaking tythe did not now exist. Mr. Williams was well aware that tythe had been done away and rent charge substituted, and if that were the object of the Act he apprehended it had been gained in a most remarkable way. The Act had thus operated in a wonderful way, but as he had previously observed, he thought the fault of the Act was in not having made payment by the landowner compulsory. Mr. Williams had referred to the great ill-feeling that formerly existed between the tythe payer and tythe owner, and it was then thought, and reasonably so, that if the tythe could be got rid of as a burden to the tenant farmer they would obviate much of the ill-feeling that existed. It was said that the charge should be put directly on the land, but unfortunately the Act did not say the landowner should pay. He could not agree, therefore, that the Tythe Commutation Bill had worked badly for its object. He was aware that practically the tenant farmer still paid the rent charge, and in that way the object had been defeated. Still that was a matter for arrangement between the tenant and the landowner when a farm was taken, and it would be for the tenant to say that he would not take the farm unless it was tythe free. In most instances he (Mr. Cherry) paid the rent charge himself. He did not take any credit for this, because he believed he was able to let his farms on more favourable terms, from the fact that they were tythe free. In discussing the effects of the Act and how it had worked, they must start with settling first of all what was its object. Its object was primarily to get rid of the ill-feeling which existed between the tythe payer (the tenant farmer) and the tythe owner, and in order to do that, throw the burden on the landowner. Machinery was devised, which he thought, had answered the end remarkably well, as the figures quoted by Mr. Williams had conclusively shown. In the long run—say 100 or 200 years—the Tythe Commutation Act would be very much against the landowner, the natural effect of a fixed money charge being against the receiver. He should be sorry to be a party to any movement that would throw the balance, which would be sure to come, any more strongly against the tythe owner.

Mr. CUNDELL narrated his experience of the unpleasant duty of collecting tythe in kind.

Mr. WILLIAMS briefly replied, contending that the septennial clause made the Act work unjustly.

The usual votes of thanks were presented, and the meeting broke up.

ATHY FARMERS' CLUB.

THE VALUATION OF ARTIFICIAL MANURES.

At the last ordinary monthly meeting of the Athy Farmers' Club, Mr. J. McCulloch in the chair,

Dr. CHARLES A. CAMERON, M.D., delivered the following lecture: At the last meeting of the Club Mr. Davidson read a paper showing the results of an experiment with thirteen artificial manures, applied under (apparently) equal conditions to turnips. From these results Mr. Davidson deduces certain conclusion which, I think, he was hardly justified in placing before us so forcibly as he has. He commences by telling us that "from the exceptional nature of the season, and other things (he does not, by the way, say what the other things are), the experiment must have had its failings." If the experiment, then, must have its failings, it is manifestly dangerous

to draw any positive conclusions, except those of a very general character, from its results. Again, Mr. Davidson states that such an experiment "requires to be carried out for three or four years, and on different soils, to test thoroughly each manure." Having thus shown that it was impossible to arrive at satisfactory results by the method of experiment which he adopted, Mr. Davidson subsequently proceeds to deduce from the results of his unsatisfactory—or rather, I should say, incomplete—investigation the most positive conclusions. This procedure does not appear to my mind to be at all logical; for where the premises are imperfect, the conclusions must necessarily be imperfect also. The absolute and relative values of artificial manures can only be satisfactorily determined

the field by a series of carefully-conducted experiments repeated and varied during several years, and under different conditions of climate and soil. It is only in this way that the errors incidental to a solitary experiment can be eliminated. If Mr. Davidson repeated his experiment next year, and obtained identical results, we might be almost satisfied that the different manures which he employed in his last experiment possessed the relative values which he assigns to them; and if a third trial elicited no discordant results, then one might logically form a positive opinion as to the comparative merits of the different fertilizers for the particular crop to which they were applied. The results of a single experiment might be made more reliable than Mr. Davidson's trial if there were duplicate plots sown with the different manures, the plots so arranged that the two parcels of each manure should be as wide apart as possible. It would also be desirable to interpose between each pair of manured plots an unmanured plot. The wonderful absorptive, and indeed I might say selective powers of the soil enable it to retain the elements of the food of plants, which otherwise would be speedily washed out of the land by drainage water. But, although potash, ammonia, and the phosphates, &c., are, to a great extent, retained in the soil, they are not wholly prevented from passing off in the drainage. In the case of heavily-manured land the drainage therefrom contains no inconsiderable amount of fertilising matters. Now, as there is a circulation of water throughout every field, and, as a general rule, the flow of the drainage is in a particular direction, it is at least possible, if not very probable, that a portion of the manure applied to some of Mr. Davidson's plots, may have been carried by the drainage into others of the plots. It is for the purpose of avoiding, or rather of lessening, this possible source of error that I suggest the interposition of an unmanured plot between each pair of manured ones. On comparing the composition of the different manures employed by Mr. Davidson with the values which that gentleman sets upon them, it struck me as being remarkable that a mineral superphosphate should have given better results than bone manures and guanos. The chemist is often chided because he values the ingredients of coprolite and other mineral superphosphates at the same rates as if they were constituents of bone manures and guanos. Here, however, we find Mr. Davidson, a practical farmer, proving that a mineral superphosphate is better than Peruvian guano, phospho-guano, and such well-known animal manures as Norrington's bone phosphate and Hill's nitro-phosphate. It would not be difficult to quote scores of experiments such as Mr. Davidson's, which have afforded the most extraordinary and anomalous results, such as unmanured plots producing a larger crop than manured plots; a small quantity of a fertiliser giving better results than a large quantity of the same manure, and notoriously worthless stuffs apparently beating standard manures. I do not, however, purpose occupying the time of the Club in reproducing the details of these worse than useless investigations; but I cannot avoid quoting a curious experiment described in the *Farmers' Gazette* for March 11th, 1871: "Mr. George Milne, of Towneley Hall, Drogheda, referring to Mr. Davidson's papers, mentions an experiment with manures which he made last year. He states that Peruvian guano produced 42 tons 4 cwt. of turnips per Irish acre, while Hill's nitro-phosphate yielded 50 tons 2 cwt." Now, here we have Mr. Milne's experiment proving that Hill's nitro-phosphate produced 7 tons 18 cwt. of turnips more than Peruvian guano; whilst according to Mr. Davidson's experience, Peruvian guano produced 4 tons 8 cwt. of turnips per acre more than Hill's nitro-phosphate. Now, if a farmer were hesitating between the purchase of Peruvian guano or nitro-phosphate, would his mind be cleared up on the point by the perusal of Mr. Davidson's and Mr. Milne's accounts of the relative merits of the two manures? A curious result came out in Mr. Milne's experiment. Nitro-phosphate, which gave 50 tons 2 cwt. per acre when the plants were eight inches apart, yielded only 46 tons 12 cwt. when the plants were separated by an interval of ten inches. On the other hand, nitrate of soda, which produced 49 tons 2 cwt. when the plants were eight inches apart, developed 50 tons 8 cwt. when the turnips were ten inches asunder. The question then arises: Should we compare the relative values of nitro-phosphate and nitrate of soda by the results which they give applied to turnips eight inches, or those which they produce when the plants are ten inches apart? This is but one of the different questions in relation to manures which arise

out of such experiments of those of Mr. Davidson's and Mr. Milne's. Here is another comparison between Mr. Davidson's experiment and Mr. Milne's, which is instructive: Mr. Davidson obtained 12 tons 16 cwt. of turnips per acre from his unmanured land, and 24 tons 8 cwt. from that manured with nitro-phosphate; as the manure cost £4, he had only 11 tons 12 cwt. of turnips for his £4; each ton of turnips cost him therefore about 7s. Now, Mr. Milne obtained 16 tons 11 cwt. of turnips per Irish acre from unmanured land, and 50 tons 2 cwt. from land manured with £3 4s. worth of nitro-phosphate. Now, these figures prove, apparently at least, that £3 4s. worth of nitro-phosphate produced 33 tons 11 cwt. of turnips. In this case if the commercial value of nitro-phosphate was determined by the amount of turnips which it produced, it would be set down at nearly £20 per ton, instead of £5 16s., its value according to Mr. Davidson. In Mr. Davidson's experiment, Peruvian guano is tested in comparison with simple superphosphates. The former is valuable chiefly on account of the large proportion of ammonia which it yields; the latter contains almost nothing of importance, except phosphoric acid. Supposing the turnips only wanted phosphoric acid, and not ammonia—a circumstance of no unfrequent occurrence—would it be fair to value the Peruvian guano only in proportion to the effect produced by the phosphates? Undoubtedly not; for its nitrogen would be deposited in the soil, and would be available for future crops. Mr. Lawes lately told the members of this Club that in many cases the addition of potash salts to the soil was useless. If, then, an experiment were made to test the relative values of kainit, sulphate of ammonia, and mineral superphosphate, as turnip manure, it might happen that the soil selected for the experiment would have abundance of potash. In such case the specific effect of the kainit would probably be *nil*, or nearly so; but would not the experiment merely go towards proving that in that particular field kainit was not required? it surely would not determine the commercial value of the article, or its applicability to other soils. The general experience of agriculturists, both scientific and practical, has established the fact that nitrogen, phosphate of lime, and, but to a less extent, potash, are the chief substances which confer fertilizing properties on manures, both natural and artificial. These substances have, therefore, come to be possessed of considerable intrinsic value, which is modified by the physical and chemical conditions in which they exist. For example, nitrogen is far more valuable when it is a constituent of ammonia or nitrate of soda than when it is an ingredient of woollen rags or horn shavings, whilst phosphoric acid is far more efficacious, and, consequently, more valuable, when it is an ingredient of "soluble phosphates" than of bone earth or coprolites. A proper analysis of a manure tells us the amounts of nitrogen, phosphoric acid, &c., which it contains, and enables us to form an opinion as to its commercial value. A knowledge of the general composition of manures is now no longer confined to chemists and a few scientific agriculturists. The purchasers of these articles are beginning to learn in what respects a good superphosphate differs from a bad one. They want to know before purchasing their supply of guano how much ammonia it contains, and the intelligent farmers will soon cease to buy any superphosphate that does not contain at least 25 per cent. of soluble phosphates. Now, as farmers depend to a great extent upon the description of the current artificial manures given by the chemist, the latter is certainly bound to make himself as explicit, intelligible, reliable, and useful a guide in this matter as he possibly can. His first duty is to ascertain the composition of the manure submitted to him for analysis. I think there is no doubt but that the agricultural chemists of the United Kingdom conscientiously and carefully analyse the substances entrusted to them for that purpose; and there is no evidence whatever to show that they desire to bring out results in favour of the manufacturer of the manure. So far as analysis goes, chemistry is a matter of fact, and not of opinion; and it is impossible, without being guilty of dishonesty, to give a better analysis of a manure than it really deserves. The chemist, having analysed a manure, is next called upon to determine from his analytical results the commercial value of the article. Some chemists decline to do this, on the ground that it is beyond their province; but I think the practice has, up to the present at least, been a useful one. Many persons do not understand the terms used in describing the composition of manures, and a bad or inferior manure, might on the faith

of its actual analysis, be palmed off upon them, unless the money value was added to the analysis. While maintaining the general utility of the "chemical valuation" of manures, I am quite willing to admit that there is some foundation for the attack which Mr. Davidson, in his usual vigorous and trenchant manner, made upon the system at present in use. Mr. Davidson particularly referred to my valuation as being excessive, but I think he will find that few chemists place so low a value upon the ingredients of manures as I do. Still, I do not profess to be perfect, and I freely confess that Mr. Davidson's paper has done good service by forcibly directing our attention to the discrepancies between the selling prices and the chemist's money values of manures. Peruvian guano formerly contained on the average from 16 to 17 per cent. of ammonia, 22 per cent. of phosphates, and 8 or 9 per cent. of potash. When of average composition, my valuation of this manure invariably corresponded to its selling price; but when its ammonia was deficient, or in excess (as Mr. Bagot mentioned during the discussion on Mr. Davidson's paper), of course my valuation was lower or higher than the selling price. On looking over my reports of analyses made for the County of Kildare and the Queen's County Agricultural Societies, I find that my valuation of guano is more frequently below than above its selling price. In the report of the former Society for 1864 I find my valuations of five samples of genuine Peruvian guano to be respectively £10 18s., £12 3s., £13 2s., £13 12s. 9d., and £16 17s. per ton, the selling prices being £14 and £13 10s. per ton. One would think, from reading Mr. Davidson's paper, that I almost invariably valued manures at a much higher price than that at which they are sold; but it will be seen that in last season's report of the Queen's County Agricultural Society 20 per cent. of the manures analysed were valued at less than their selling prices. In valuing superphosphate of lime and other manures containing soluble phosphates, I think the bi or soluble phosphate is estimated at too high a rate. Formerly a good sample of this manure contained on the average about 22 per cent. of soluble phosphates, 10 per cent. of insoluble phosphates, and 1 per cent. of ammonia, and its selling price was about £8 per ton. To value its ammonia at £60 per ton, its soluble phosphates at £40 per ton, and its insoluble phosphates at £8 per ton was fair enough, and that scale afforded results corresponding with its ordinary selling price. Of late years the price of Peruvian guano and other sources of ammonia has increased; whilst, owing to the employment of mineral phosphates, and the low price of sulphur ore, soluble phosphate can now be manufactured at a cheaper rate than formerly. Some time ago I increased my valuation of ammonia from £60 to £70 per ton, and I shall henceforth (until prices alter) value it at £80 per ton; for I find that during the present week manufacturers of manures have paid £20 per ton for sulphate of ammonia, a salt which contains only 25 per cent. of ammonia. I shall lower my valuation of soluble phosphate from £40 to £34 per ton. This will tell chiefly upon the pure mineral superphosphates, which are now, when of good quality, valued at a higher rate than their selling prices. The reduction of the valuation of soluble phosphates will seriously affect the bone manures, which, unless they are of the very best quality, will have a lower money value than their selling price. It is cheaper to make soluble phosphates from coprolites and other minerals than from bones; and £40 per ton, though an excessive valuation, for coprolite soluble phosphate, would not be excessive in the case of soluble phosphate made from bones. It must, however, be borne in mind that bi-phosphate of lime (a soluble compound of lime and phosphoric acid) is of equal value to the farmer whether it is made from bones or minerals, and the manufacturer of "bone manures" should, therefore, prepare his soluble phosphates from minerals, as the cheapest source, and mix it with insoluble phosphates derived from bones. It is difficult to ascertain the value of the insoluble phosphate of superphosphates. When it is derived from bones it is efficacious, and is worth £10 per ton; but the insoluble phosphate from coprolites is worth little or nothing. As a general rule the coprolite superphosphates do not contain much insoluble phosphate, and this ingredient rarely adds more than a few shillings per ton to the valuation of the manure. When a superphosphate is rich in organic matter and ammonia (burning black like a burnt bone when strongly heated), the presumption is that the insoluble phos-

phate is derived from an animal source, and is therefore efficacious. On the other hand, a superphosphate containing but little organic matter possesses in general an inert insoluble phosphate. An exception must, however, be made in favour of bone-ash superphosphates. The amount of gypsum in superphosphates varies from 25 to 50 per cent., and it influences the value of the manure by from 7s. 6d. to 15s. per ton. It is questionable whether or not gypsum is of any use to root crops, and if it be useless, then we should not value it at all. In future analyses of a public nature I am disposed to value the different items in each manure separately, so that the purchasers may know to what extent the percentages of the really essential ingredients of the manure influence the total value of the article. Repeated reference has been made to the high value which I have affixed to the XX superphosphate. It should be understood that I estimate its money value in the same mode that I determine that of similar manures. Its high value depends on the fact that it contains 40 per cent. of soluble phosphates, or about a third more than is usually present in superphosphates. If I valued the XX superphosphate at its selling price I should value similar manures at much less than the market prices. In concluding this paper I should state that I think Mr. Davidson has done good service in directing attention to the subject of manure valuation, and I hope he may be induced to continue his experiments so that by their repetition our knowledge of the specific action of the manures now in use may be fully ascertained.

MR. DAVIDSON: From the very able paper now read by the learned Doctor, I must say that I am put on my defence; and I rise with some small degree of pride when I consider that my humble and no doubt imperfect paper (although as perfect as I could make it) has been the means of bringing Dr. Cameron here to-day. And remember, if you ask the Doctor's advice on any subject in Dublin, you will have to lay down your guinea; but here to-day my advice to you is to pump him well when he cannot charge for his reply. And I also beg to say that there is no person values more than I do the valuable services rendered to the Kildare and Queen's County by the Doctor; for I have no doubt whatever but that he has been the means of driving all bad manures out of the market. But, as I said before, I must defend myself and the paper I read here on our last club-day, and in doing so I should have stood up under a difficulty, as the doctor had a month to discuss my paper; and you must all know how difficult it is to discuss such a paper as the Doctor has now read without having it first printed; but, fortunately for me, the *Farmers' Gazette* has placed in my hands an article which, through some strange foresight or other (laughter) is exactly the principal parts of the paper now read, and I will therefore take the liberty of using it when it has come so opportunely to my assistance. After describing my experiment, and giving the table of it, the writer says that I wind up by denouncing Dr. Cameron's valuation as excessive, and goes on to say that the really useful result of my paper might literally be expressed by the word *nil*. So says the doctor in his paper of to-day, and goes on to say that I used 13 manures, all of which gave good results; but he also says that if I had used a single manure on each plot I would have had the same variation. I beg to differ with him in this; for I might have had a slight difference, but not to the extent I had by separate manures. Again, the writer says, and so does the doctor now, that if I had made duplicate experiments I would have had different results in the same field. No doubt I would; but you must all be aware of how difficult it is to get a plot of ground suitable for an experiment, and hence the reason I selected the spot I did; and I have not another two acres on all Blandafort on which I could make so equal an experiment as the one I chose. The writer then goes on to say that I only prove that Vivian's manure, which is only a second-class manure, gave better results than some of the more favourite manures. I believe this is the result of my experiment; but the writer, and also the doctor, now in his present paper, I think, might fairly have left out my name, and instead have said Hogg and Robertson's swedes says and proves so and so; for I can assure you, gentlemen, it was the turnips that decided the matter, and not me. Again the writer, and the present paper also, say if I value the manures by the turnips they produced, how do I know what remains in the soil? This is a subject I did not touch on, and I leave it for another consideration. My object is, and has been, to get the makers to

give us a good mineral superphosphate at £5 10s. or £5 per ton in Dublin, which they can do and have profit enough, instead of what they call bone superphosphate at a high price, which is often, after all, nothing only a mineral manure. I believe that a mineral manure will give us as many turnips per acre as a bone manure; and when we have the turnips we can make muck either by sheep or cattle; but let us by all means have the mineral manure under its right name and at its value. This opinion I have held for a number of years, and also advocated it in Dublin; but it is only now that it is likely to be put in practice by makers, as I hear we are to have a mineral manure for £5 this year. But don't suppose I undervalue a bone manure; but I don't like a mineral manure at bone price. The writer then says that the result of Vivian's second-class manure beating Hill's nitro-phosphate is perfectly astounding. Well, it may be so; I cannot explain why, especially as Hogg and Robertson's swede does not speak, but only tells dumb facts. But the writer seems to be astonished that the XX manure showed such results, and tries to make it appear that the blanks were not the result of the manure, and thus taking another view of it, says the blanks speak in favour of the manure; for, had I counted the blanks, and given credit for a turnip in each, then the XX would have shown a better, if not the best, result. The writer must have known very little of my principle and views in carrying out this experiment when he would expect me to leave local facts, and go to suppositions, to make out a table in favour of any maker's manure; and I am sure that there is not a practical farmer in this room who is not perfectly satisfied in his own mind that some ingredient in the manure, either from the excessive drought, or some reason (that the doctor can, perhaps, better explain than me), caused the drooping of fine healthy plants especially when I inform them that on one side of the plot was Vivian's, and the other side Gillie's manure, out of which none died, and on the XX plot they drooped here and there up to the very drill alongside of the others. There is another point the writer touches on, and it is one that I think goes far to prove that it is difficult to tell what manure is most suitable for a special crop, and it also shows how little makers and chemists know of the fact. When ordering the Wicklow manure it seems I got (through some mistake of the agent, which it is not my business to explain) a corn manure, instead of a superphosphate. I tried the manure on its merits at the price, £8 per ton. On my table being published, the Dublin agent wrote to the Abbeyleix agent why I was charged £8 for the manure, and it was said I had ordered a corn manure. That I could not have done, for I never use corn manure at Blandafort, nor did the man I sent know that there was such a thing as corn manure made, and, therefore, could not ask for it. However, I gave the agent a sample of it, and he never wrote to say whether it was a corn manure or not; but it seems he has given the *Farmers' Gazette* information that it was a corn manure. But without any hesitation I say it was almost the best turnip manure ever I have tried. I had to thin the plot a week sooner than the rest, and all summer it kept the lead, and in my opinion and those who saw them it looked as if it was to be first; but although the scales proved Vivian's 4 cwt. to the ton of manure over it, yet had it been sold at the same reduction in agent's price as Vivian's, and a stone more used, it must have been one of the best; therefore this manure, which is said to be food for corn, proved itself among the first of the turnip manures. The writer then goes on, and so does the doctor, to compare my experiments against others made at Glasnevin, and by Professor Voelcker; but I am sure the practical farmers here know too much about the value and results of manure not to see the difference between the practical results of my experiments, and such as something produces nothing, and nothing produces something.

Mr. YOUNG: You put an equal money's value of manure on each plot?

Mr. DAVIDSON: Yes.

Mr. YOUNG: That would reduce the quantity.

Mr. DAVIDSON: That is a matter to be discussed. There is no use in the experiment referred to by Dr. Cameron; for it goes only to this length, that something produced nothing, and nothing produced something.

Rev. Mr. BAGOT: The real practical question to come to a decision on here to-day is with regard to what is the proper value to put on the component parts of artificial manures. The

question at issue, and on which the club should come to a conclusion upon, is—Has the chemist put too high a value on the artificial manures? Dr. Cameron, in his paper to-day, has stated that he is going to lower his valuation; but there is this important question for the farmers to consider: If Dr. Cameron lowers his valuation, it will be necessary for the other chemists to lower their valuations also. Dr. Apjohn does a great deal of work for those engaged in the manure trade, and he places a much higher valuation upon the components of manures than Dr. Cameron does.

Dr. CAMERON: Dr. Apjohn retains the system of valuation adopted twenty years ago.

Rev. Mr. BAGOT: If we could manage to start the idea among those analysing artificial manures to settle the vexed question of valuation, and publish the values they may agree upon, the trade would know what value to put on ammonia and bi-phosphates. We had a meeting of the trade in Athy last season, I think it was, and I corresponded with Dr. Voelcker, but he refused to put a money value on manure at all; but I was rather startled at reading over his report of this year to find that he himself, as Dr. Cameron has stated instances of the same nature, reported a sample which was sent to him was not worth £2 a ton, although it was selling at £8 a ton. Therefore we must have, if an analysis is to be of any use at all, the money value attached. There is no harm in the world if we have on the top of valuation of artificial manures the valuation also of their different components.

Mr. YOUNG said there was one point which had not been mentioned yet, and that was with regard to the arbitrary values of manures. He considered 5s. a ton exceedingly low in Mr. Davidson's valuation of the turnips produced in his experimental plot.

Mr. DAVIDSON said he gave what nothing produced as so much, and what Peruvian guano produced.

Dr. CAMERON: In your two columns of figures my valuation is placed in juxtaposition with yours, and it appears to be excessive as compared with mine. Mr. Davidson must have been speaking of the absolute values, not of the relative.

Mr. YOUNG: That is what I mean. I think 8s. a ton would have been as low a value as Mr. Davidson should have put on the turnips.

Mr. DAVIDSON: The manures must not get all the credit of that. There is the price of labour, and all that.

Dr. CAMERON: Supposing that without manure you had sixteen tons to the acre, and that by applying manure you had an additional quantity, the manure must get the credit of that. Of course, there is the same labour.

Mr. DAVIDSON: There is additional labour in putting on the manure, and there is the interest on the money.

Dr. CAMERON: I regard that as the absolute valuation.

Mr. DAVIDSON: That is the valuation of what was produced by guano, as compared with what was produced by nothing.

Mr. YOUNG: But is 5s. all they are worth to you?

Mr. DAVIDSON: Certainly not.

Mr. YOUNG: If you obtain twenty tons without manure, and if by adding manure you obtain forty tons, the difference is the value of the additional quantity so produced.

Dr. Cameron complimented Mr. Davidson on the admirable manner and good temper which he had exhibited in commenting on his (Dr. Cameron's) criticism on Mr. Davidson's experiment. He quoted from a recent volume of the *Journal* of the English Agricultural Society several experiments, showing that solitary field experiments were not reliable as a means of determining the relative values of manures. He was inclined to think that an excessive quantity of the XX superphosphate had been applied; for that manure contained 40 per cent of soluble phosphate. Was it the greatness of the soluble phosphate that produced the numerous blanks in the plot to which the XX superphosphate had been applied? He would like to hear the opinions of the practical gentlemen present on the point. It appeared rather strange that this manure should prove efficacious in the case of some of the plants, and injurious to that of others. If a dose of some substance were administered to every soldier in a regiment, would it kill some of them, whilst improving and fattening the others? Dr. Cameron contended at considerable length that at the present prices of the raw materials the manufacturers of good artificial manures had no more than 10s. per ton profit. Of course, if the consumers of artificial manures dealt directly with the

manufacturer of them, and dispensed with the services of the middle class, or, as the political economists term them, the distributors of wealth, the manures could be got much cheaper than they are now sold at in the country. On the same principle, all other commodities might be obtained at lower prices, if the consumer dealt directly with the producer.

Mr. YOUNG said if turnips in one plot die out here and there, the turnips which remain get food from the ones which died all round them, and naturally they would be larger turnips.

Dr. CAMERON: But some of the plants, from the manner in which Mr. Davidson described them, looked as if they had been killed by the manures, and, perhaps, in consequence of an excessive quantity having been applied.

Mr. LOW: The plants died from excessive heat of the season—the turnips could not stand the excessive heat; but, perhaps, there was something in what Dr. Cameron says about too much manure.

Mr. DAVIDSON: If the season had been wet the result of the experiments might have been different.

Mr. LOW said there was another thing to consider, and it was this, that in the dry land where the experiment was made the amount of manure used might not have suited the soil.

Dr. CAMERON stated that superphosphate contained a corrosive liquid, which, if a plant is put into it, causes the plant to die in a very short time, but that liquid becomes innocuous when put into the soil.

Mr. LOW: That is very easily understood. When the manures might be dropped a little too thick the plant would die. At other places in the plots the plants may not have got so much, and struggled on till they got food, and grew.

Mr. ROBERTSON: Another thing is, were the manures equally mixed?

Dr. CAMERON: I am sure the great attention Mr. Davidson paid generally in his experiments was also paid to that point, and that there was no great inequality.

Mr. DAVIDSON: The manures were applied as evenly as they could possibly be.

Mr. ROBERTSON: I mean by the manufacturers.

Dr. CAMERON noticed the fact that some of the manures might have contained more of soluble phosphates than the plants could bear.

Mr. DAVIDSON: I applied 10s. worth to half a rood—that is £4 worth to the acre.

Dr. CAMERON: That is an immense quantity of a manure containing 35 to 40 of soluble phosphates.

Mr. ROBERTSON: I can give a practical answer to that—

Mr. YOUNG: I have applied six cwt. of superphosphate, with three of guano, to the acre.

Mr. ROBERTSON: I have put five of guano and ten or twelve of superphosphate to the acre; but I never had more than half a crop.

Dr. CAMERON referred to a number of experiments with artificial manures in England, in all of which large quantities of mineral, and less of sulphate of lime, and less of ammonia, were employed in the manufacture of the manure, and the results were nearly equal.

Mr. YOUNG: What was the result of the nitrate of soda?

Dr. CAMERON: That gave an enormous return.

Mr. DAVIDSON considered the manufacturers ought to produce a first-class manure and sell it at £6 a ton. A good manure could be produced even at £5 a ton, which would give a good crop of turnips. He would like to know what the cost would be to add ammonia to superphosphate.

Mr. LINDSAY: About 15s. per ton.

Mr. ROBERTSON: Is it not safer for us to purchase the mineral manure, and add the ammonia?

Rev. Mr. BAGOT: That is the real point for this club to consider.

Dr. CAMERON: I certainly would prefer getting a simple mineral superphosphate, and add the ammonia.

Mr. YOUNG: Just as a man would buy clover and grass seeds to mix.

Dr. CAMERON, in reply to a question from Mr. Lindsay, said he would not prefer a manure with 28 per cent. of soluble phosphates and one of ammonia to a manure with 40 per cent. of soluble phosphates and no ammonia. Every percentage of ammonia in manure adds 16s. to its value.

Mr. LINDSAY: Ammoniacal manures are best for grasses.

Dr. CAMERON said that nitrate of soda was easily washed

out of the soil, but the ammonia is not. He had found very little adulteration in sulphate of ammonia, and that was only natural to its manufacture. It was very simple to prove if ammonia was adulterated.

Mr. YOUNG mentioned that there was great difference of opinion about the two things—nitrate of soda and sulphate of ammonia. For instance, Mr. Lawes strongly advised nitrate of soda for grasses.

Dr. CAMERON: Mr. Lawes' experience of land in Ireland is limited.

Mr. KENDALL said there was great expense to the manufacturers in the freight charged for carriage, and for bagging it.

Dr. CAMERON said those two items were very heavy on the manufacturers. He did not think the respectable large manufacturers had more than 10s. per ton profit.

Mr. DAVIDSON: 5s. a ton would pay them well.

Mr. LINDSAY said he would be inclined to think the XX more valuable than bone manure.

Mr. ROBERTSON: Is there no artificial manure which you could recommend as a perfect substitute for farm-yard manure? If not, artificial manures are going to ruin the farmers and the country, unless turnips are eaten on the land.

Dr. CAMERON: You have just suggested the remedy—let the turnips be eaten off the land.

Mr. ROBERTSON: The small farmers can't afford to do that.

Mr. LOW: Using artificial manures produces straw.

Dr. CAMERON said it would be a useful manure to plough in turnip tops into the land.

Mr. YOUNG: No matter what manures are used if the turnips are taken away.

Dr. CAMERON: Turnips consume an enormous quantity of the mineral matter out of the soil—more than six or eight crops of wheat.

Mr. ROBERTSON: Two or three years' rest will remedy that.

Mr. CAMPBELL asked if, instead of eating the turnips off the land, farmers put back into the soil artificial manures sufficient to make up the loss, would that meet the question raised.

Dr. CAMERON said clover and all leguminous plants require an abundance of organic matter, such as farm-yard manure alone can supply.

Rev. Mr. BAGOT: Dr. Voelcker says in his last report—“Large sums of money are annually expended in the purchase of phosphatic manures, and as the quality of these manures varies exceedingly, and the actual price at which they are sold does not always correspond with the intrinsic value of the manure, it is highly desirable that purchasers of superphosphate or dissolved bones should buy these manures of a quality guaranteed by analyses. The following analyses of two superphosphates offered for sale in the same place, one at £6 3s. (cash) per ton, and the other at £4 3s., afford a good illustration of the fact that a considerable saving may often be effected if the composition of rival superphosphates is determined previous to purchase:—

COMPOSITION OF TWO SUPERPHOSPHATES.

	No. 1. Sold at £6 3s. net cash.	No. 2. Sold at £4 3s. net cash.
Moisture	15.38	18.93
Water of combination and * organic matter	9.45	6.21
Biphosphate of lime (mono-basic phosphate of lime)	13.04	15.06
Equal to bone phosphate (tri-basic phosphate of lime) rendered soluble by acid	(20.42)	(24.52)
Insoluble phosphates	13.25	5.14
Sulphate of lime	43.10	47.37
Alkaline salts and magnesia	1.08	.96
Insoluble silicious matter	4.75	5.94
	100.00	100.00
* Containing nitrogen .....	.33	.08
Equal to ammonia .....	.40	.09

These two superphosphates have nearly the same commercial value. No. 1 contains a little bone; No. 2 is a purely mineral superphosphate. I should feel disposed to give from 5s. to 7s. 6d. more per ton for No. 1 than for No. 2. The sample marked No. 1 is rather dear at £6 3s., net cash, and No. 2 cheap at £4 3s., net cash. Of the 32 samples of

bone-dust, not one was adulterated, which clearly shows that the unsparing publication of the names and addresses of dealers in adulterated bone-dust has had an excellent effect."

Dr. CAMERON said Mr. Eckford told him that parties had emptied his bags and filled them with a worthless stuff, and sold it as his manure.

Rev. Mr. BAGOT: That was a fraud. I want to know how it can best be ascertained that the stocks which vendors keep late in the season are of the same quality as that they had early in the season.

Dr. CAMERON; I know this from several manufacturers,

that in this county and in the Queen's County a first-rate article has been sent to the farmers. Of course, they did not say, nor did I ask them, if they continued to send the same article during the whole season.

Mr. DAVIDSON: The first lot is generally the best.

Dr. CAMERON: I never found any fault with the respectable manufacturers. If farmers deal with men of established reputation, and not with obscure people—

Mr. DAVIDSON: There is a gentleman in Maryboro' who will yet give a good mineral manure for £5 a ton.

A vote of thanks was passed to Dr. Cameron.

THE ROYAL DUBLIN SOCIETY.

THE SPRING CATTLE SHOW.

Commencing on Tuesday, April 11th, The Royal Dublin Society has held its Forty-first Spring Show. As years roll on this meeting increases in the numbers of Shorthorns exhibited, and all other breeds, whatever may be their merits, diminish, till, as in this, their last show, there was but one animal in many of the sections. The Shorthorns are no doubt in much demand, even amongst Irish small farmers, who are most anxious to possess a Shorthorn bull if to be obtained within their means, as they are sure to get better prices for their young stock with a dash of Shorthorn blood in them than for those without it. The Royal Dublin Society's Spring Shows have therefore turned out a great success, as they offer opportunities at the proper time for the sale and purchase of yearling Shorthorn bulls, and the supply has been greatly on the increase, for by reference to the catalogues we find, in the spring of 1868, there were 108 yearling Shorthorn bulls; in 1869, 124; in 1870, 122; and in 1871, 135 yearling bulls, all of which, with the exception of some choice specimens held over by the breeders, have been sold and disseminated throughout the country, for go where we will the pastures and fairs are besprinkled with Shorthorn colours, and when old enough are extensively exported as stores to England and Scotland. Still, the falling-off in the numbers of Irish-bred Herefords and Devons, is not altogether caused by the demand for Shorthorn blood: for both the Irish Royal Societies give rather liberal prices for Shorthorns, and miserable premiums or none at all except paltry medals for the other breeds.

Shorthorn bulls of all ages outnumbered on this occasion the preceding shows—in 1868 there were 166; in 1869, 172; in 1870, 168; and in 1871, 204; while the entries of heifers and cows are rather on the decrease, breeders having found out the deleterious effects of feeding up the females for show purposes, and they now but rarely prepare their best for exhibition.

A visit to the show would go far to prove that Ireland is getting more and more prosperous every day; a look at the long ranges of Shorthorns, and the grand display of implements and machines, brought over at great expense by the first manufacturing houses in England, would convince the grumblers that there is much capital in the country, and a spirit to lay it out, otherwise those wealthy firms would not annually put in an appearance. In fact, there is a spirit of agricultural enterprise abroad, leading to proportionate increase of wealth, that is fully exemplified by this as well as the preceding meetings in Dublin, that sets grumblers at defiance. The increasing numbers every year of reaping and mowing machines, portable steam engines and thrashing machines, sold and scattered throughout the country, as well as all other improved agricultural machines and implements, are gratifying proofs of Ireland's material advancement.

The yearling Shorthorn bulls numbered 135; and though it must be confessed that a few of them were better left at home, except for sale, the greater number were of superior quality and breeding, so much so that it proved a tough job with the judges to select four out of the collection for the prizes; and whether they took too much time and got puzzled, or from some other cause, they certainly made a fearful mistake in putting Mr. Bland's Flag of the Realm first, to the amazement of all in the yard, as none could be more surprised than Mr. Bland, or his manager Mr. Davidson! The only claims the animal had for any notice are—quality, a good colour, and a fine coat of hair. He is a bad backed bull, flat ribbed, and very hollow behind the shoulders, and many better were turned out of the ring; he is, however, of good blood, being got by Prince of Rosedale (24837), out of Princess Dagmar. The outsiders had long come to the conclusion that the choice for first place lay between E. S. Smith's Viscount by the Earl (27628), from the Kingscote pastures, out of Lunette by Best Hope (23413), a very level well-put-together bull, of good substance and quality, and Mr. Meadow's Prince Charlie by Prince of the Realm (22627), out of Chintz by Fugleman (14580), a bull of much substance, capital ends, middle, and twist, level over, fine back and crops. The study over these two fine animals was long and tedious, and ended in Prince Charlie being put second; he should have been first, and Viscount came third. Alexander Shirley Montgomery took the fourth place for Half Sovereign by Mr. Chaloner's famous grand prize bull Sovereign (27538), out of Rose of Castile by British Flag, a good stylish bull, which well deserved a higher place. High commendations were given C. W. Hamilton's Phoenix, a neat sweet bull by Alp, out of Waterwitch, and Mr. Bland's Gay Lad by Lictor, and commendations to Rev. — Montray's neat and serviceable bull, The Premier; W. Welsh's Woodlark, from Mr. Bolton's herd; and The Hon. John Massey's Baronet.

The two years old bulls made an excellent section, numbering 45. W. Bolton, The Island, County Wexford, who ranks A 1 amongst Shorthorn breeders, was put first for Lord Woodhouse by Duke of Marlborough (23768), out of Woodbine the fourth; he is a fine up-standing bull, full and well-fleshed at all points, but a little patchy; he got a high commendation this time twelve months. Mr. Meadows, Thornville, Wexford, takes second place for Prince Mason, by Prince of the Realm (22627), out of his fine cow Blossom the Fifth, the dam of his famous bull Bolivar, the champion bull of the British Islands in 1868, beating all before him. Prince Mason is therefore half-brother to Bolivar; and a very symmetrical bull he is, white, with roan ears. The third prize went to R. J. M. Gumbleton, Curryglass, Cork, for

Earl Courtown, bred by Mr. Bolton, by Duke of Marlborough (23768), dam Doubtful, by Grey Gauntlet; he was the fourth for honours last year as a yearling, and a very serviceable promising bull. The Earl of Carrick, Mount Juliet, county Kilkenny, takes high commendation for Gauntlet, by Lord of the Empire, out of Honeysuckle, who handles well, and possesses much quality, with good shape. The Rev. Mr. Montray's General Prim, N. M. Archdall's Sam, Patrick Linnott's Chieftain, E. F. Smith's Prince of Lothian, Mr. Chaloner's Iron Duke, and R. W. Reynell's Prince Arthur Patrick, are all commended.

Twenty-four fine bulls made up the aged section, several of which have carried honours before, but the chief is Mr. Chaloner's famous bull Sovereign, by Royal Sovereign (22808), out of Village Rose, by Blood Royal, which was never beaten in his class since his calfhood in Ireland; he now is again first in his class, and takes the Townley Challenge Plate for the third and last time in succession; he won this plate four times, first in 1867, but lost it in 1868, when it was awarded to Mr. Meadows's famous prize bull Bolivar. Sovereign also won the Railway £150 Cup for the third and last time, this time twelvemonths, so that Mr. Chaloner is now the owner of the two plates won by the same bull throughout, a feat unprecedented we believe in the annals of Shorthorn contests, but he generously returns the Challenge Plate to the Society. Mr. Smith, Islandmore, comes second with The Earl, bred by Mr. Chaloner, by Ravenspur (20628), out of Village Rose, by which he is half-brother by the dam's side to the grand prize bull Sovereign. The Earl was first as a two-year-old at this show last year. The Earl is a stylish bull of fine substance, good ends and ribs, and improved in his crops since last year. S. Cook, Ballyneal House, who always has something good, takes third place for St. Ringan, bred by the Hon. G. Lascelles, Moor Hill, Leeds, by Good Fitz, which was the only non-Irish bred animal, we believe, in the show. Mr. R. G. Cosby, Stradbally Hall, Queen's County, has a high commendation for Colonel Frank, bred by Mr. Meadows, and a commendation for Rollicker, bred by himself; while W. H. Messy's Henri de Valois, the reserved bull of last year; and Mr. Moffat's Dey of Algiers, the second prize two-year-old bull of last year, are nowhere.

Eighteen splendid heifers composed the yearling section. Mr. Smith, Islandmore, was put first for his grand white heifer, Repose, by the well-known bull, Lictor (24333), out of the equally well-known Recherché, by Monk (11824): she promises to be a credit to her progenitors. He also takes second honour for his very sweet roan heifer, True Love the Fifth, by Prince Bertram (27119), and of True Love the Second, by the famous bull, Dr. M'Hall. A third was found in Mr. Meadows' substantial red and white heifer, Fanny the Twenty-ninth, by Prince of the Realm (22627), out of his fine cow, Fanny the Fourteenth; and a fourth place was given Mr. Cooke, of Ballyneal House, for his sweet heifer, Ruth the Twenty-fifth, by St. Rignan, out of Ruth the Twentieth. C. H. Peacocke, Wexford, for a roan-red twin-calf heifer, and several very neat and sweet young things by the best breeders, remained unnoticed. The two-year-old heifers numbered but five, but they were of high blood and quality. Mr. Bolton leads with the splendid heifer, Chaumontel, the prize yearling of last year, which he bought from Mr. Meadows, the breeder. She is by Agamemnon (23278), out of the well-known Chansonette. P. J. Kearney, Milltown House, Clonmellan, Meath, takes second place with Pattern, by Prince Bertram, out of Pretty Maid, by Dr. M'Hale. E. J. M. Gumbleton got a commendation for Emma, a very

promising heifer from the Mullinsbro' herd, by Master Harbinger, out of Emily the Second. There was but one three-year-old heifer, which was shown by Wm. Stowell Garnet, Killa., she is by Leviathan, a prize bull, out of Alexandra.

Eight shorthorn cows made up the last section of shorthorns. I. S. Smith's Little Moyle Carlow was put first for Miss Matilda, with a calf at her foot, by Prince Arthur out of Lady Alice the third; she was second last year to Major Hamilton's Harmony, the latter being now only commended, but Major Hamilton takes the second place with his very grand substantial cow Beryl, by Earl of Cleveland (23828) out of Beauty by Silk and Scarlet. W. S. Garnet takes an H. C. and a commendation for Leah and Spring Rose, both of them first in their respective classes at Ballina the Royal last year. Leah is by Prince of Warlabby (15107), out of Lady Alice, and Spring Rose by British Flag (19351), out of Rose of May.

The show of Herefords was ludicrously small: two yearling bulls, two aged bulls, a yearling heifer, a two-year-old heifer and one cow, composed the entire class. P. I. Kearney got four, and Mr. Reynell one prize. Of the Polled Angus tribe there were but four entries. Mr. W. Owen, Blessington, taking two, and Colonel Sir Jno. Robinson one prize. The Devons were also few, 3 bulls, 2 heifers, and 4 cows; the prizes being divided between James Berrett, of Dublin, and Mr. Peake, Monaghan. Kerries were better represented, but still few, 4 bulls, 10 heifers, and 11 cows; the prizes going to various suburban occupants. West Highlands were limited to 2 bulls, 1 heifer, and 2 cows; and the Ayrshires, formerly so numerous, numbered but 1 bull, and 4 cows. Alderneys were chiefly shown by suburbanites, of which there were 1 yearling, 8 aged bulls, and 6 heifers and cows. From the paucity of the several varieties of cattle other than Shorthorns for some years past, it would be much better for the Society to exclude them altogether, as there can be no hope of successful competition when the prizes are merely nominal. Fat cattle numbered 55 of all breeds, age, and sex; they were for the most part very well finished, but there was nothing very remarkable amongst them.

The breeding pigs were remarkably good and well bred, so much so as to leave but little room for improvement, but it will require much care to keep them up to their present state of perfection. They were shown in upwards of 70 pens, about double the number exhibited last year, and in breeding and quality were very superior.

The show of poultry and pigeons was excellent, and in far greater number than on any former occasion, and their breeding true to the distinctive established markings required in the several varieties. They were shown in 337 cages, being 98 over the number exhibited this time twelve months.

The show of implements, machines, and steam engines was by far the best that has been seen in Ireland for several years past, both for numbers and workmanship, embracing the newest improvements. Altogether there was over 100 stands. Several of the "crack" English manufacturers put in an appearance with their best machines and implements, instead of being represented by Irish agents, as has been the practice with some of them of late years. Amongst the English firms there were Ashby, Jeffery, and Luke, Stamford, Bryan Corcoran, London, for the first time, with ponderous millstones, flour bolting machines, and numerous articles required in the milling trade; Bradford, London, Manchester, and Dublin, a numerous assortment of washing and churning machines; Robbins, Old Swan Wharf, London, American lawn mowers, pumps; Thomas and Taylor, Salford, Manchester, numerous hexagonal churns; Penny and Co., Lincoln, rotatory

corn screens; Taylor and Wilson, Lancashire, washing and wringing machines; Ruben Hunt, Halstead, Essex, various agricultural implements; James Eastwood, Blackburn, a series of compound action churns; W. S. Boulton and Co., Norwich, water and liquid-manure carts, and a large assortment of garden utensils; W. A. Wood, Thames-street, London, his celebrated reaping and mowing machines with the latest improvements; Samuelson and Co., Banbury, Oxon, their excellent mowing and reaping machines; Bristol Waggon Works Company, Bristol, several beautifully-finished spring carts; The Reading Iron Works, Reading, superior portable steam-engines and combined thrashing-machines; Nicholson, Newark-upon-Trent, haymaking machines; Ransomes, Sims and Head, Ipswich, Suffolk, double-furrow and other ploughs; Haughton and Thompson, Carlisle, hayrakes; Richard Garrett and Son, Suffolk, who have been the oldest and most constant exhibitors, their very powerful steam-engines and thrashing-machines with their latest improvements, corn-drills, and dressing-machines; H. and G. Kearsley, Ripon, grass-mowing machines, and horse-rakes; Hornsby and Sons, Grantham, exhibited their first-class reaping and mowing machines, portable steam-engines and thrashing-machines; J. and F. Howard, Bedford, their first-class ploughs, harrows, haymaking-machines and horse-rakes; W. Carson and Sons, Ludgate-hill, London, and Dublin, anti-corrosive paints, varnishes, &c., and a large assortment of agricultural implements, amongst which was Burgess and Key's newly-improved self-delivery reaper; Pickaley, Sims, and Co., Manchester, chaffing and other machines; Baker, Compton, Berks, water and liquid-manure carts; H. Inman, Manchester, portable rustic garden-houses; H. Pasley and Son, Liverpool, weighbridge; Dunston Engine Works, Gateshead, stonebreaking machine; J. and F. Howard, Bedford, their celebrated ploughs; Le Butt, Bury St. Edmund's, corn screens; Richmond and Morton, Liverpool, their chaffing machines, and B. Hodgett and Sons, Moreton-in-Marsh, Gloucestershire, model of rick covers, besides several exhibitors of small brickmaking from England. The principal Irish exhibitors were T. McKenzie and Sons, Dublin, Cork, and Belfast, although manufacturers as agents also for many English first-class firms; Faucett Killusan, agricultural machines and implements; W. and J. Kitchie, Ardee, machines; J. W. Elvery, Dublin, McKenny's patent self-adjustive India-rubber horse-shoe pad to prevent injury and lameness; Henri Cherlier, V. S., Paris, his horse-shoes; Fergusson, Grafton-street, Dublin, the patent detachable horse-shoe; Paul and Vincent, Blackhall-place, Dublin, a large assortment of agricultural implements and machines; Kinnan and Sons, Fishamble-street, Dublin, besides being extensive manufacturers, are agents for the most respectable English firms; Robert Bowles, Blackhall-place, Dublin, an extensive manufacturer, and maker of steel harrows, as also an agent for several English houses; William O'Neill, Athy Agricultural Works, had a large assortment of Irish and English manufactured implements and machines. Of Scotch manufacturers there was but Alexander Lack and Sons, Maybole, Ayrshire, reaping and mowing machines. The show of implements was much crowded for want of space, but it is hoped that this will be remedied shortly by taking more land and erecting new buildings.

JUDGES.

SHORTHORNS.—A. Mitchell, Alloa, N.B.; H. Thurnall, Royston, Herts; E. Bowley, Siddington, Cirencester.

OTHER BREEDS.—J. Keating, Cabra House, Moynalty; A. Templeton, Glanhenimpe, Glasbury, Hereford; G. Hewson, Listowel.

FAT STOCK.—R. Hall, Preston's-row, Liverpool; J. Kelly,

Creaganstown, Dunshaughlin; J. Simson, Cloona Castle, Hollymount.

Pres.—J. Bruce, Miltown; A. Warburton; J. Borthwick.

PRIZE LIST.

SHORTHORNS.

(The list of prizes embodied in the report.)

HEREFORDS.

Bull calved in 1870.—First and bronze medal, P. Kearney (Master J. Coxall).

Bull calved in or before 1868.—R. W. Reynell (Leo the Second).

Heifer calved in 1870.—P. Kearney (Syren).

Heifer calved in 1869.—P. Kearney (Cherry Ripe).

Cow of any age.—P. J. Kearney (Cherry Fruit).

POLLED ANGUS.

Bull calved before 1870.—W. Owen.

Heifer calved in 1868.—Lieutenant-Colonel Sir John S. Robinson, Bart., Rokeby Hall, County Louth.

Cow, any age.—W. Owen, Blessington.

DEVONS.

Bull calved before 1870.—J. Peake, Monaghan. Highly commended: J. Barrett, Artane.

Heifer calved in 1869, in-calf.—J. Peake.

Heifer calved in 1868, giving milk or in-calf.—J. Peake.

Cow of any age.—J. Peake. Commended: Sir A. E. Bellingham.

KERRY.

Bull of age.—Captain Bayley; second, J. Brady.

Heifer calved in 1869, in-calf.—T. Butler, Priestown, County Meath; second, Sir Percy Nugent. Commended: E. Wright.

Heifer calved in 1868, giving milk or in-calf.—W. Whyte; Highly commended: D. Bayley. Commended: C. D. Spinks.

Cow.—G. N. Purdon, Lisnabin, Killucan; second, R. W. Boyle. Highly commended: D. Bayley.

WEST HIGHLAND.

Bull calved before 1870.—Silver medal, best of the prize bulls in 30th and 31st sections, H. W. Birch, Ballina.

Heifer of any age, giving milk or in-calf.—Lieut.-Colonel Sir John S. R. Robinson. Highly commended: T. Butler.

AYRSHIRE.

Bull calved before 1870.—T. Butler.

Heifer of any age, giving milk or in-calf.—G. A. Stephens.

Cow of any age.—G. A. Stephens. Highly commended and commended: T. Drury, Rathmines.

ALDERNEY OR CHANNEL ISLAND.

Bull calved in 1870.—G. Dingwall.

Bull calved before 1870.—G. Dingwall. Highly commended: M. Henry, J.P.

Heifer giving milk or in-calf.—G. A. Stephens. Commended: T. Butler.

Cow of any age.—W. Johnson, Prumplestown House, Carlow. Highly commended: Mr. Dingwall.

FAT CATTLE.

Shorthorn ox, calved prior to 1868.—O'C. L. Murphy, Broommount House, Trim.

Shorthorn cow of any age.—Hon. J. Massy (Ophelia the Second); second, M. H. Frank (Rose). Highly commended: Mr. Murphy. Commended: Lord De Vesce and O'C. Murphy.

Shorthorn heifer, not exceeding four years old.—First and second prizes, O'C. Murphy.

Hereford ox, calved in 1868.—P. J. Kearney.

Kerry ox, calved in 1868.—R. W. Reynell, Killucan.

Kerry cow, of any age.—S. Garnett; second, T. Butler.

Kerry heifer, not exceeding four years old.—G. N. Purdon; second, B. P. Fitzpatrick, Newlands, Naas. Highly commended: R. Fetherstonehaugh.

West Highland ox, calved in 1868.—S. Garnett.

Ox, of any other pure or cross breed, calved in 1869.—S. Garnett.

Ox, of any other pure or cross breed, calved in or prior to 1869.—First and £5, S. Garnett (half-bred Kerry ox, as the best of all the fat oxen); second, R. W. Reynell.

Cow, of any pure or cross breed, calved in or prior to 1869.—Silver medal, Sir A. Walsh.

Heifer, of any other pure or cross breed, calved in or prior to 1869.—P. J. Kearney, (cross-bred heifer); second, R.

Fetherstonehaugh. Highly commended: Rev. W. Moutray, O'C. Murphy, and S. Garnett.

Pair of fat oxen, of any breed, that have been fairly and *bond fide* worked as plough bullocks up to May, 1870.—W. S. Garnett.

Best of all the prize fat oxen.—S. Garnett.

Best of all the best fat cows.—Hon. J. Massy.

EXTRA STOCK.

Mr. E. Pardon's Kerry cow, Meg Merrilies, recommended for prize, and E. Pardon highly commended for two other entries. The Marquis of Conyngham commended for a Spanish cow, highly commended for a Spanish heifer.

PIGS.

COLOURED BREEDS.

Boar, six months and not exceeding twelve months old.—Lord Clermont (Berkshire boar); second, J. Cunningham (Lucan). Highly commended: R. G. Cosby.

Boar, exceeding 12 and not exceeding 24 months old.—Lord Clermont (Berkshire boar); second, W. L. Joynt. Highly commended: Mr. Thomson.

Breeding sow, in pig, or having had a litter within six months.—J. C. Cooper; second, Lord Clermont. Highly commended: Mr. Joynt.

Three breeding pigs of the same litter, under ten months old.—Lord Clermont; second, W. Jameson. Commended: The Misses Connolly, Castlepollard.

Litter of not less than six pigs, not exceeding five months old, accompanied by the sow.—Mr. Joynt; second, J. Molly, Mountjoy-street. Highly commended: Lieutenant-Colonel C. R. Chichester.

WHITE BREEDS.

Boar, six months and not exceeding twelve months old.—First and second, W. Dobbyn, Abbey House, Granard. Commended: Mr. Molloy.

Breeding sow in pig, or having had a litter within six months.—J. C. Cooper, Limerick; second, the Marquis of Drogheda. Highly commended: J. L. Naper.

Three breeding pigs of the same litter, under ten months old.—First and second, W. Dobbyn, Abbey House, Granard. Highly commended: M. Mahony, Baldoyle.

Litter of not less than six pigs, not exceeding five months old, accompanied by the sow.—J. Molloy; second, J. L. Naper. Commended: T. Drury.

Fat pig of any breed, not exceeding eighteen months old.—R. W. Reynell.

Fat pig of any age or breed, exceeding eighteen months old.—The Misses Conolly. Highly commended: R. Manders, Swords.

At the dinner on Thursday evening, his Excellency the LORD-LIEUTENANT said: If we look at the agricultural community of Ireland, we find that the habitations, not alone of the labourers, but also of the farmers, need much improvement. I am quite ready to admit that there is great room for improvement; but still we find improvement, and I think we are bound to take credit for it. If we look at the stock, we find great improvement in every possible respect; and now, if I turn for a moment to the show which we have lately seen, I think I have reason to congratulate this society on the large support which they receive, not only from the owners of stock, but also from the people of Ireland. We have not seen a larger exhibition, I believe, these two years; and the attendance of the public has not been greater, I believe, or as great, on former occasions. I have had now the satisfaction of seeing several of your shows. I was present at your winter show, and I think, excellent as that show was, it is satisfactory to find that this spring show, which is a show devoted to the breeding stock rather than the fat stock of the country is, perhaps, more excellent than the winter show. I confess that yesterday when I went through the yards, I saw there a class of animals of much higher average than the average quality of the fat stock that was shown at the Christmas show. I can say this, I think, with the utmost impartiality. As I was successful last Christmas with a fat animal, I have every reason to speak well of the character of the stock at the winter show. But I repeat that I think I may say that the breeding stock here is better now than the fat stock in winter. I cannot help alluding to an animal which has often distinguished himself here, and whose name I have

had on my lips when speaking in public before—I mean the bull which has three times carried off the highest prize at this show. I believe, indeed, that the bull of my friend Mr. Challoner will obtain for Leinster as much fame as Lord Lurgan's famous dog has obtained for Ulster, and I may add that I can wish for nothing better to the owners of stock in Ireland than that their herds should pay due allegiance to the sovereign who rules over the rich pastures of Meath. I have endeavoured by humble example to show the merits of this animal, and I hope at this moment that several of his descendants are now grazing on the fields of Northamptonshire. If we pass from Shorthorns, which have had such success in Ireland, I am glad to notice that enterprising breeders of Ireland have introduced with success other kinds of English stock. A friend of mine whom I see near the end of the table has been successful with some Herefords, which shows that that breed could also thrive well on the pastures of Meath with other stock. There may, no doubt, be some English breeders who have heard of the "creepy heifers," but I confess that the name is new to me. I can only say that I congratulate the consumers of the meat of those breeds on its quality, which must be very good, having regard to the very small animal which fetches so high a price. With respect to the implements exhibited at the spring show, I am also glad to be able to congratulate the Society on the large number of exhibitors in this class, and still more on the ready sales which I am informed there has been of all implements of agriculture for different parts of the country. It is with great pleasure that I meet here so large a body of the agriculturists of Ireland. I have often had in my official capacity intercourse with them on matters of business. Recently I had a deputation to me on a very important subject, and I hope you will allow me, although I have done so before, to allude to a subject which recently occupied my attention, together with that of the large and influential deputation who waited upon me in reference to the restrictions upon the cattle trade, with a view of preventing the spread of disease. Now, I had the misfortune to differ at first with the very large and influential body of gentlemen who formed the deputation on the subject, but I hope the difference has not in any way led to interruption in our relations. I believe we both felt that we were striving for the same end—differing only as to the means—that end being the improvement of the cattle trade of the country. I attach very great importance to the subject. I believe it to be of the utmost importance to the farmers and breeders of stock, as well as to the sellers of stock in this country, that proper regulations should be devised and carried out with respect to the sale and transit of diseased cattle. Now, in England and Scotland they have had much weightier experience on the matter than you have had in this country. During the cattle plague the disease spread through the length and breadth of those countries while you had hardly any disease in Ireland. And in England and Scotland they found that not only was this particular disease entirely rooted out of the country by the very severe regulations which were at the time in force, but that in consequence of those regulations a very great diminution took place in other diseases amongst cattle. The consequence was that after the termination of the rinderpest the farmers in England almost demanded of the Government that restrictions should be placed on the movements of cattle with respect to other diseases. I ask you here in Ireland to take advantage of your position, and to learn by the experience of England. I have no doubt that that experience is right. I don't want you in Ireland to go through all the misfortune they have had in England with regard to the cattle plague before you are thoroughly converted to the importance of having certain restrictions on the cattle trade. I can quite understand the reckless owner of stock not caring a brass farthing for his neighbour or anybody else, who buys cattle in the market for the purpose of getting rid of a diseased animal, or one perhaps not actually diseased, thrusting it into the market. He does not think of the small farmer who has only two, or three, or four cattle on his farm, and who may, perhaps, buy the animal next door to him, and bring disease and ruin to his own house by it. I can quite understand that; but I have a higher opinion of the farmers of this country, and am quite sure they do not look on it in that point of view; and if they only consider the matter they will see it is their real interest—although it may, perhaps, bring some loss and inconvenience—to do all they can to diminish disease in cattle in this coun-

try. I believe this is a matter which it is necessary should be better understood in Ireland than in England. In Ireland we have many small farmers, and if a small farmer loses a bullock or a cow, he loses his all; but in England they are nearly all large farmers, and they do not feel the loss so much; besides the large farmer can more easily isolate and manage his stock so as to prevent the spread of disease than the small farmer. I know that this Society has a great work before it—has a great work in encouraging and fostering that improvement in agriculture which the Legislature, which the landlords, which the tenants of this country have lately made such great efforts to develop. We see in different parts of the country admirable examples of improvements—we see a contented tenantry living side by side with their landlords in happy harmony. In those districts where that happy state of things prevails we see not only a diminution of poverty, but a diminution of crime and of those disturbing causes which have so often driven capital out of this country and have been such a curse to it. God grant that those districts may soon spread like a web over the country; and sure I am that so long as this Society is supported by those gentlemen whom I see before me, and who attend those meetings, it will have a long, successful, and prosperous career.

Mr. SIMSON, one of the judges, said beyond doubt the cattle were almost all that could be desired; but, unfortunately, they had to a great extent neglected the land. They must combine tillage with pasture, and, making cattle, sheep, and corn the mainsprings of their prosperity, commence a new and brighter era for Ireland. Affairs had changed wonderfully since he first came to this country, some fifteen years ago. Then he used to have as many as three hundred labourers seeking employment at his farm of a harvest morning, some of them walking six miles; now it was with difficulty he could hire 30. But to compensate for this they had machinery, and with the aid of that powerful agent they ought to become far more prosperous than they were. There was still much to do for the labouring man. The time was coming when labour would become more scarce, and there was a spirit that would not be kept down—a spirit that was rising every day—a spirit of the working classes, who wished to share in the prosperity of the country.

ROYAL AGRICULTURAL SOCIETY OF IRELAND.

At the monthly meeting of the Council in Dublin, Sir George Hodson, Bart., in the chair,

The CHAIRMAN desired to call attention to a curious circumstance. A cup had been offered by the North Kerry Farming Society, and won once by a gentleman, who, although the Society had ceased to exist soon afterwards, refused to return it.

The Rev. Mr. BAGOT said that Mr O'Connor could keep the cup till he was challenged.

Captain THORNHILL was of opinion that if the North Kerry Society was in existence, and handed over their cups and documents to the Kerry Society, they could recover the cups.

The Rev. Mr. BAGOT believed that the Statute of Limitations barred them from doing so.

Mr. MILWARD remarked that unless the cup was challenged, it became Mr. O'Connor's property under the rules.

A lengthened communication was received from Mr. THOMAS BUTLER, of Priestown, taking exception to some of the prizes offered for the forthcoming show of the Society, deprecating the rule excluding tenant farmers who sent in stock for exhibition from the yard.

The Rev. Mr. BAGOT did not think the rule excluding the exhibitors alluded to until the show-yard was thrown open to the public ought to be persevered in.

Mr. MILWARD pointed out the inconvenience that would arise if an exhibitor in the third class had a thorough-bred bull worth a hundred guineas that took sick and he would not be allowed to see him. He concluded by handing in the following notice of motion: "I will move, at the next meeting of the council, that rule No. 27, as published in the premium sheet, prohibiting exhibitors from entering the show-yard, be rescinded, and that in future exhibitors be allowed to come in,

on procuring a pass, at all times until the showyard is open to the public.

The subjoined letter was received from Mr. Henry Trench:—Cangort Park, Roscrea, 6th March, '71. Dear Sir,—It appears to me that a machine for the application of steam power to the ordinary method of cutting turf would be a great public benefit. Should the Society take this view of the case, I should be glad to subscribe towards a premium for the best plan of a machine for carrying out this object.—Your obedient servant, Henry Trench.

A letter was received from Mr. Chancellor, Lower Sackville-street, asking to be allowed the exclusive right of photography at the forthcoming show of the Society.

The Rev. Mr. BAGOT stated that on a former occasion, at his suggestion, advertisements were inserted in the papers asking for tenders from persons seeking to enjoy this privilege, when that of Mr. Chancellor was accepted, offering to give, as well as he recollected, £30 for that purpose.

The matter was referred to the local committee.

The following gentleman was proposed and unanimously elected a member of the Society: J. Cannon, Castlegrove, Tuam.

At an adjourned meeting of the Council held on Tuesday, Sir GEORGE HODSON, Bart., the Chairman, stated that he had received a communication from his Excellency the Lord Lieutenant, intimating that His Royal Highness the Prince of Wales, and probably Her Royal Highness the Princess of Wales, would be present at the Society's exhibition in August next.

The Rev. Mr. BAGOT moved the resolution of which Mr. Milward had given notice, as follows: "That the Rule No. 27, as published in the premium sheet, as to prohibiting exhibitors from entering the show-yard, be rescinded, and that in future exhibitors be allowed to come in on procuring passes at all times, until the show-yard is open to the public."

Mr. OWEN said he had been a good while exhibiting at the shows of the Society, and mixed up with their working, and he believed there was a great deal of what was right and fair in Mr. Milward's proposition. It was very hard that the proprietor of the stock should not be allowed to see it placed. He seconded the resolution.

Mr. WADE said the rule was very strict in the English Society, excluding exhibitors from entering the yard before the show is open to the public. As far as his experience went, and he had had some experience, he had always found that the showyard had got so full of strangers and people who had no business there that they were very much in the way. He had rarely found any advantage from the presence of exhibitors, or any assistance in getting the animals into their places. Very often the stock was brought in by men who could not produce the ticket, because the master had it. When the stock was got hold of, they had to send round the yard and look for the master to take the ticket out of his pocket. There was nothing but trouble in having a man who professed to do business he did not do. If the men who brought the stock and were responsible for it had the tickets with the proper numbers, the steward would have nothing to do except see the ticket and put the stock into the proper place. As far as his experience went, the exhibitors as a rule were always in the way.

The CHAIRMAN: We admit tenant farmers because they lead their own stock. We want no one except the man who is with the beast.

Mr. BAGOT: I would call attention to the fact, that in the English show-yard the cattle department is walled out from the implement yard. There may be a good many implement people walking about the yard here.

The resolution was negatived without a division.

The other business was of no public importance, nor did anything come of some suggested alterations.

LOCAL TAXATION IN IRELAND.—The returns of local taxation in Ireland show that in the year 1869 the entire estimated receipts (other than money borrowed) of Irish authorities in charge of local taxation amounted to £2,747,777. Eighty-four per cent. was raised by rates on land and buildings, and 13 per cent. by tolls, dues, fees, and other local

taxes. In England, in 1868, these two ratios were rather over 72 and 16 per cent. respectively. The remaining receipts in both countries were money applicable in case of local taxation. In Ireland 39 per cent. of the local taxation of the year was under the management of county authorities, 29 per cent. was under Poor-Law authorities, above 17 per cent. was under town authorities, nearly 10 per cent. was under harbour authorities, above 2 per cent. under inland navigation and drainage authorities. The most remarkable local taxes in Ireland are those on the trade of pawnbroking, under ancient Irish statutes, and the "toll thorough," formerly levied at every corporate town, but now in Galway alone. "Toll thorough" is a tax at the entrance of towns on every saleable article passing, whether sold or not. It was granted to Galway in 1395, by a charter of King Richard II. The ancient trust was for repairing the fortified walls and paving the town; but in 1836 the tolls were vested in Improvement Commissioners, by statute, for paving, lighting, cleansing, and watching the town, the surplus to be applied for watering the town, erecting fountains, providing fire-engines, and erecting a market-house, shambles, public cranes, and weighing-places. It is, in fact, a tax levied upon the agricultural produce of the surrounding country for the purpose of defraying expenses which should in justice be borne by local taxation. In Ireland the division of rates between owner and occupier has been carried out since 1838 under the Irish Poor-Law, and has been extended to county cess by the Irish Land Act of 1870, but has not yet been extended to town taxation. There is no prohibition of contracts against a division, and Irish legislation made no provision for its application to existing contracts. Dr. Neilson Hancock states in the report now presented with the returns from which we have quoted that, owing to the difference in principle, difference in administration, difference in point of revision, and difference in deduction of local rates between the valuations used for local rating in Ireland and in England and Wales, it is impossible to do more than arrive at a rough approximation to the relative burdens in Ireland and in England and Wales, as compared with the true annual value of the real property upon which in both countries it is mainly imposed. Bearing in mind how rough any comparison must be, it may be observed that the estimated receipts by local authorities in Ireland in 1869 amounts to 4s. 2d. on the Irish valuation of lands and buildings; the corresponding receipts in England and Wales in 1868 amounts to 4s. 7d. in the pound on the English valuation. In consequence of the difference of proportion of other receipts and other taxes, the rates on houses and lands in Ireland in 1869 may be estimated at 3s. 6d. in the pound on the Irish valuation, and the rates on houses and lands in England and Wales in 1868 may be estimated at 3s. 4d. in the pound on the English valuation. The receipts of local authorities in 1869 in Ireland amounted to 9s. 11d. per head of population; and in England and Wales in 1868 to £1 1s. 5d. per head of population. If 2s. 2½d. per head of population be added to the Irish proportion of receipts for the extent to which the Irish contribution for police, from the local taxes, is less than it would be if the contribution was in the same proportion between local and general taxes as in England and Wales, it appears that to provide for the same wants of the population 12s. 4½d. per head is spent in Ireland and £1 1s. 5d. per head in England and Wales.

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the monthly meeting of the directors, on the recommendation of the Special Committee on Cultivation by Steam, a deputation, consisting of Professor Macquorn Rankine, consulting engineer to the Society, Professor Wilson, Edinburgh, and Mr. Swinton, Holyn Bank, was named to attend a trial of Finken's plough, to be held at Offerton Hall, near Newcastle.

The board unanimously approved of the following memorial to the Privy Council on the conveyance of animals by railway:—

Unto the Lords of Her Majesty's most Honourable Privy Council, the Memorial of the Highland and Agricultural Society of Scotland, Incorporated by Royal Charter, Sheweth, —That your memorialists, as representing the proprietors and

farmers of Scotland, have a lively interest in the safe transit of animals by railway and otherwise, and possess great facilities for knowing that the Order of Council of 12th May, 1870 (No. 300) for providing trucks with buffers, and supplying food and water to animals carried by railway, is notoriously evaded; and that a new order embodying more stringent measures, with a penalty attached in case of non-fulfilment, is urgently called for, as no person is named in the order to see that the provisions thereof are carried out, or for prosecuting the parties evading or infringing it: That your memorialists have carefully considered the subject of the transit of animals and are of opinion that, in addition to the buffers stated in the order referred to, covered waggons, closed at the ends and 18 inches along the sides from each end, should be provided for carrying animals by railway: That it was the intention of your memorialists to refer to another Order of Council of same date (No. 301), in respect that three important railway companies in Scotland—namely, the North British, the Great North of Scotland, and the Highland—are not mentioned in the list of stations enumerated in the schedule where water is to be provided for animals; but your memorialists observe that the order is revoked from the 31st of May next, and a new order substituted. They regret to notice, however, that many important cattle stations are not included in the new order (No. 324)—such as Dalwhinnie—a station on the Highland line, where a very large number of cattle and sheep are trucked, the whole of the Deeside Railway, and several branch lines on the Great North of Scotland being omitted. Your memorialists fear that many other cattle stations are left out, and with your Lordship's permission they would be glad to furnish a list of stations where they consider it necessary that water should be supplied. Your memorialists therefore humbly pray your Lordships to take this important subject into consideration, and to make such alterations as may be deemed expedient.

(Signed) ROBERT RUSSELL,

Chairman of Directors' meeting.

Edinburgh, April 5th, 1871.

A motion by Mr. SCOT SKIRVING, "That a sum of not less than one hundred guineas be voted from the funds of the Society as a contribution to the fund for supplying seed corn to certain districts of France," postponed from last meeting, was then taken up.

Mr. SKIRVING said that he could not be present to support his motion at last meeting, as he was then in France, and that he would not now press it as the season was so far advanced, and the miserable proceedings in Paris had somewhat damped public sympathy, though the peasants in the country were not to blame for what was done in the capital. At the same time, he must protest against the idea that the Society could not, like other corporations, give some small portion of its large funds in charity when a great and pressing occasion occurred. In 1847, the directors of the day thought they could not give a single pound to the inhabitants of the Highlands who were starving in consequence of the potato blight, yet since then sums had again and again been given for objects which had nothing to do with agriculture. If they were really bound hand and foot by the Charter as to their funds, as no railway or other public body was bound, the sooner they endeavored to get it amended the better.

Mr. F. N. MENZIES read a letter from Sir James Gardiner Baird, regretting that he would not be able to attend the meeting, and hoping as a director that Mr. Scot Skirving's motion might be opposed, as, apart from the legality of the Society being able to vote its funds to charitable purposes, he thought that the present aspect of the French nation should prevent the directors from aiding them in their present disorganised state.

Mr. MURRAY, of Dolerie, said that by the Charters of 1834 and 1856 the Society was stated to have been incorporated "for the promotion of the general improvement of the Highlands, and thereafter of advancing the art of agriculture throughout the entire extent of Her Majesty's ancient kingdom," and the means used are set forth as "the granting of premiums for agricultural improvements, the holding of shows of cattle, implements, and produce, and the general promotion of the science and practice of agriculture." He added that he had consulted some legal friends who concurred with him in opinion that the Society could not legally vote its funds for any object furth the kingdom.

Mr. Graham Binny, W.S., and Mr. Hew Crichton, S.S.C., also concurred in Mr. Murray's views.

THE KELSO SHOW, 1872.—The Board approved of letters being addressed to the conveners of the counties in the district of the Show, in regard to the auxiliary subscription.

At a meeting of the Council on Education, held on the 29th of March, the Certificate in Agriculture was conferred on Mr. Adam Ogilvie Terry, St. Ann's, Coupar-Angus, who is entitled to present himself for the further examination, in terms of the regulations, for the diploma, on his attaining the age of twenty-one.

A letter was read from Professor Wilson, stating that he had awarded the prizes given by the Society to the class of Agriculture as follows: 1st prize, £8, to Mr. James P. Glendinning, Mid-Lothian; 2nd prize, £4, to Mr. A. Stewart M'Gregor, North Wales. These examinations are held at the close of the season, and are distinct from the ordinary seasonal examinations.

William Baillie, forester, Whittingham, Prestonkirk, and William Robertson, Forester's House, Lauder, having passed for first-class certificates at the examinations held on the 29th ult., the Board approved of the Report by the examiners, and authorised the issue of the certificates.

The annual public examinations for the Society's Veterinary Diploma, which are now open to the students of any veterinary teacher duly recognised by Government, were approved of being held on the 11th and 12th current, the practical examination taking place on the 10th.

THE YORKSHIRE PRIZE FARMS.

The following elaborate conditions of competition have been issued by the Yorkshire Agricultural Society: First prize, £300, and a silver cup, value £50; second, £200, and £20 cup; third, £100, and £10 cup. Competing farms not to be less than 100 acres, and situate in the county of York. Entries to be made to the Secretary of the Society on or before the 1st of August, 1871, and each competitor to pay at the time of entry a fee of one shilling per acre on every acre of land in his occupation, the maximum entrance fee to be £50. The entry fees to go towards the expenses of the adjudication. Each competitor will be bound to submit to the judges' inspection the whole of the land farmed by him in the county. Every competitor will be supplied with a book, in which he must enter a description of the farm, as directed by the secretary for the use of the judges. If ten competitors are not entered on the 1st of August, the prizes will be withdrawn.

The prizes will be awarded by three judges, chosen in manner following, viz.: The council of the Yorkshire Agricultural Society will nominate six gentlemen duly qualified for the office, and their names shall be submitted to each competitor, who shall have three votes, and will have the privilege of voting for any three of the six, and the three judges obtaining the largest number of votes, will award the prizes. Should a judge die, his place to be taken by the one having the next highest number of votes.

The duties of each competitor will be to prepare and submit to the judges in 1872, 1873, and 1874, a true inventory of all the live and dead stock, crops, and interest bona-fide his property, existing and being on the farm on the first day of May in each of those years, together with his own valuation of the same. Competitors will not be compelled to produce their farming accounts, but any accounts submitted by them to the judges, will be duly inspected and considered.

The judges shall inspect each competing farm field by field in the month of October, 1871, making notes of the state of cultivation—inspecting and noting the quantity and quality of the live and dead stock thereon—examining and recording the condition of the farm premises, fences, drains, roads, &c., &c., and ascertain as far as needful to what extent, if any, the competitor, if a tenant, is receiving assistance from his landlord in the management of the farm. Again to inspect the farms as above in the month of May, 1872, to compare the competitor's inventory with the stock, &c., upon the farm, and to make their own valuation of the same. Again to submit the competing farms to a careful inspection in the month of October, 1873, and the last inspection to be made in the month of July, 1874;

but should the judges wish to make their inspections at other periods during the years 1873 and 1874, they will be permitted to do so. The judges to make known their awards at the annual meeting of the Yorkshire Agricultural Society in August, 1874, and to furnish a detailed report of their inspections and awards for publication in the Society's Journal before the 1st of January, 1875. The judges will be directed to exercise their utmost care and judgment in making their awards. To make special notes of all operations of merit brought under their notice, especially as to the breeding, rearing, or grazing of stock, the growing of root and grain crops, &c., &c., &c. To take into consideration the difference of soil, situation, or aspect of the several competing farms, and never to lose sight of the fact that the prizes are offered for *profitable* not for *high* farming. As it is the wish of the Council that all the farms competing should do so on equal terms, the judges will be instructed, that the smallest farm may be awarded the first prize, if, in their opinion, it is the best example of profitable farming brought under their notice. The judges will be desired to discountenance high cultivation without profitable results, bearing in mind that the object of the Yorkshire Agricultural Society in offering such magnificent prizes, is to prove beyond all doubt, that by a wise and liberal application of capital and skill to the cultivation of land a profitable result may be attained.

THE REPRESENTATION OF HUSBANDRY.

Without professing to have any great faith in mere class representation, we should see with satisfaction a certain number of real tenant-farmers' representations in the House of Commons. Their special interests are either unrepresented, or are misrepresented by the landowners who profess to speak and vote in the interest of the farmers. But it is of no use to send a farmer-member to the House if he is to act as the mere follower and adherent of the landed proprietors there. It was therefore with regret we found that the prospect of returning Mr. Robert Leeds for one of the divisions of the county of Norfolk by the votes and at the cost of the tenant-farmers had been given up. Had a man of high professional repute and of really liberal opinions, such as Mr. Leeds, been sent from Norfolk by the votes of the farmers, very much would have been accomplished towards the protection of tenant-farmers' interests. It is true that Mr. S. Read sits in the House as a Member for Norfolk, and that he is in a sense a tenant-farmer. At all events he was so hailed on the occasion of his election. But Mr. Read has never, we believe, given a vote that might not have been given by an ordinary Tory county Member, and his presence in the House has proved rather a convenient shield to the Squirearchical party than in any sense an uneasiness. And this seems to be the view taken by the agricultural journals. Thus we find in a recent number of the *Mark Lane Express* an article, which, after referring to Mr. Read's complaints against the farmers, that they grumble and do not act, or do not act together, and that "it is just the same in the House of Commons as out of it," adds—"And is the farmer above all others to be blamed for such an anomalous state of things?" Clearly. For five-and-twenty years, as Mr. Read shows us, "he has been hoping against hope. Not a single promise has been redeemed." On the face of it, he (the farmer) would seem to have been returning the wrong men to represent him. The ironical editor asks—"Should Mr. Sewell Read bring in a Bill (say) to amend the law of distress for rent, or to recognise the principle of Tenant-Right, upon how much numerical support could he reckon?" Fancy Mr. Read jumping up from behind the Tory benches, and proposing to amend the law of distress for rent!! Then we are told "in plain fact, at this reading and writing, the interests of owners and occupiers are not identical. Their relations are, in many respects, not relatively fair one with the other, and so far the chief business of the most powerful party has been to take care of itself." The fact is, that until the farmers send to Parliament members who will act with the Liberal representatives of the town, and not as mere catspaws of the landlord interest, they may as well go on grumbling without acting, as otherwise, unless they can act effectively, they may as well bide their time.—*The Economist*.

USE OF LIME IN AGRICULTURE.

At a meeting of the Brecon Chamber of Agriculture Mr. T. FLEWITT, C.E., F.C.A.S., read the following Paper:

Lime, I fear, has not been so well understood by the majority of farmers as its importance demands, and only a few years have elapsed since the importance of lime and its beneficial effects on the soil received the attention of some of the ablest chemists both in this country and on the continent of Europe. It is pleasing to note that the majority of agriculturists are now becoming alive to the aid that can be afforded them by the science of chemistry. It is by the application of this science, combined by the improved practice of agriculture, that hundreds of acres might be made to increase their produce. Chemistry, as a science, embraces the whole range of animate and inanimate nature; by its means, man is enabled to ascertain the special properties of bodies and the laws that govern their combinations. By the application of its principles, he is enabled to resolve substances into their elementary constituents, and out of old materials to construct new compounds! It confers upon him a species of creative power, by enabling him to unite elements and thus to obtain a large number of bodies that have no independent existence in nature. Chemistry has, within these last few years, advanced with a celerity that even the most sanguine could not have anticipated, and it must be to us a matter of congratulation that we live in an age in which the advantages of its brilliant discoveries are experienced by every individual. If we should estimate the value of any science by its effects upon the commerce and prosperity of nations—by its influence upon the useful arts and its contributions to the enjoyments of our race—we must give the first place to chemistry. The science of chemistry has been cultivated from the most remote times, yet its history for centuries might be comprised in a few pages. At one time the slave of seekers for gold, and of dreamers after an elixir which might render man proof against the shafts of death, its language was rendered purposely obscure so as to be unintelligible to the bulk of the people. This, fortunately, is now no longer the case, by the investigation and writings of such master-minds as Leibig, Boussingault, Way, Voelcker, and a host of other kindred spirits, this beautiful and most useful science is now rendered familiar and brought within the reach of the intelligent agriculturist. And with the advance of scientific knowledge which has distinguished the present time, the means of diffusing it over the world have also everywhere increased. The railway (itself a novel monument of what the science of the present age has accomplished) has become one of the great instruments of extending the influence of her discoveries. It is fortunate that the extraordinary progress of chemistry enables the chemist to investigate and explain in a satisfactory manner the cause of the results which attend the use of applications for the improvement of the soil; were it not for this, it would not be within my reach to explain or demonstrate to you the effects of lime upon your soil, and the plants you grow for the food of man and beast. I may state that when common limestone (carbonate of lime) is burned in the kiln, the carbonic acid which forms so large a portion of its bulk (invariably about 44 per cent. of its weight) is expelled into the air, and it becomes a porous mass, and experiences an important alteration in its properties. As it exists in the mountains, it is, as you are aware, both tasteless and insoluble; but by burning it acquires a caustic taste, and is rendered slightly soluble in water. In the burned state lime has, from a very early period, been employed as an application to the soil in every part of Europe, and in many parts of this country is at present consumed in very large quantities, and yet not so much as it ought to be, which, before I conclude, I think I shall be able to show you, since the effects which lime is capable of producing upon the soil are in general not sufficiently understood by the majority of farmers. It will be necessary for us carefully to consider the nature of its operation, and also the composition of the rocks from which it is procured. We all know when water is thrown upon burned or quick lime it rapidly absorbs it, gives out a considerable amount of heat, and falls to pieces. When exposed to the air it also attracts moisture and

crumbles to powder. In this state we know it is called slaked or slacked lime, and is found to have increased considerably in weight, a ton of quick lime being converted into about 25 cwt. of slaked lime. You will perceive by this that it is to your advantage to purchase it if possible direct from the kiln, as when allowed to slake you are in the additional weight of lime simply purchasing water. It also gradually attracts carbonic acid from the air, and returns to the state of carbonate, though even after a longer period portions of it remain caustic, and the better the lime is burned the better it is for the land, and of course for the pocket of the farmer; for when it is badly burned the sooner it returns to the state of carbonate, and consequently becomes of little or no use; having again returned to its original state, lime becomes normal. I think I need not tell you that the sooner it is applied to the soil after it is slaked the better. Like all other minerals in nature, the composition of limestone varies considerably from 98 per cent. of carbonate of lime down to 35 per cent. The latter, I need scarcely add, is of little use to the farmer. When any of your lime merchants produce an analysis remember that the higher the per-centage you perceive under the head of carbonate of lime the better it is; if, on the other hand, the analysis shows a larger per-centage of carbonate of magnesia, then I should recommend you not to buy it, as in many instances it would prove an injury instead of a benefit to the land upon which it may be applied. But the use of good lime is of the greatest importance in practical agriculture. When diluted muriatic acid is poured upon pieces of limestone effervescence takes place and carbonic-acid gas is given off. If a current of this gas be made to pass through lime water the liquid becomes milky, and a white powder falls, which is pure carbonate of lime, and consists of

Carbonic acid	43.7
Lime	56.3
Making.....	100.0

The lecturer gave a practical illustration of this fact by causing a current of the gas eliminated by means of muriatic acid to pass through a glass of water; the carbon as he described falling to the bottom. He went on to say: In regard to limestones and chalks there are several circumstances which it is of importance for the practical man to know. For example, that they are not composed entirely of mineral or inorganic particles, such as are formed by the passage of a current of carbonic acid through lime water. They consist in great part (sometimes almost entirely) of minute microscopic shells, of the fragments of shells of larger size, or of solidified masses of corals, which formed coral reefs in ancient seas, that once covered the surface where the limestones are now met with. The blue mountain limestones contain many of these coral reefs, while in our chalk rocks vast quantities of microscopic shells and fragments of shells appear. Being thus formed at the bottom of moving masses of water the chalk and limestones are seldom free from a sensible admixture of sand and earthy matter. Hence when they are treated with diluted acid, though the greater part dissolves and disappears, yet a variable proportion of earthy matter always remains behind in an insoluble state. This earthy matter is sometimes less than 1 per cent. of the whole weight, though sometimes it amounts to as much as 30 or 40 per cent. All animals hitherto examined contain in the parts of their bodies traces more or less distinct of phosphoric acid, generally in combination with lime, forming phosphate of lime. This phosphate of lime, their remains, when dead, retain in whole or in part. It thus happens that limestones almost invariably contain phosphoric acid, and that the proportion of it usually increases with that of the visible remains of animals, shells, corals, &c., which occur in it. The parts of animals also contain sulphur, and this has given rise to the presence of sulphuric acid in chalks and limestones. This acid exists in them in combination of lime in the state of gypsum, varying from one-third to four-fifths per cent. The benefits resulting from burning lime are

partly mechanical, and partly chemical. We know that on "slaking," the burned lime falls to an exceedingly fine powder. When it afterwards becomes converted into carbonate it still retains the minute state of division, and thus, whether as caustic hydrate or as mild carbonate, can be spread over a large surface, and be intimately mixed with the soil. By burning the lime is brought into a caustic state, which it retains for a longer or a shorter period, until it again absorbs carbonic acid from the air or the soil. In this caustic state its action upon the soil and upon organic matter is more energetic than in a state of mild lime, or when it has lain exposed for some time to the air; hence, the reason why it should be applied as soon as possible after it is slaked; at the same time it should not be brought into contact with, or in any way mixed with manures of any description. When brought into contact with manure, it has the effect of throwing off the whole of ammonia contained in the manure (experiment performed), and thus by its action upon the manure throws off one of its most valuable constituents, unless the manure be in the soil: then, of course, the growing plants receive the benefit, and at the same time the manure is rendered available for the plants by being brought into a more soluble state. Such is the absorbent power of soil that even supposing lime was applied as we have just seen, and the effect produced as we find by the smell, by adding soil, or covering it over, the ammonia is at once absorbed and fixed in the soil for the use of the crop (experiment performed). Limestones often contain sulphur in combination with iron (iron pyrites), the coal with which it is burned also contains sulphur. During the burning a portion of this sulphur unites with the lime to form gypsum, by this means, adding to the proportion of this substance, which naturally exists in the limestone. Earthy and silicious matter are sometimes present in considerable quantities in our limestone rocks. When burned in the kiln the silica of this earthy matter unites with lime to form silicate of lime. This silicate of lime, being diffused through the burned and slaked lime, and afterwards spread in a minute state of division through the soil, is in a condition in which it yields silica to the growing plant, and enters into the structure of the stem or the bulk of the root. Thus the benefits of burning are partly mechanical and partly chemical. They are mechanical inasmuch as by slaking the burned lime is reduced to a fine and bulky powder, and they are chemical, as by burning the lime is brought into a more active and caustic state, and is, at the same time, mixed with variable proportions of sulphate and silicate of lime, which renders it so useful to growing crops. In treating upon the quantity of slaked lime to be applied, and the frequency with which it may be repeated, much depends upon the kind of land, upon the depth of the soil, upon the quantity and kind of vegetable matter which the soil contains, and upon the species of culture to which it is subjected. If the land be wet, or badly drained, a larger application is necessary to produce the same effect, and it must be more frequently repeated. But when the soil is thin a smaller quantity will thoroughly impregnate the whole, than where the plough usually descends to the depth of eight or ten inches. On old pasture lands, where the tender grasses live in two or three inches of soil only, a light dressing, more frequently repeated, would be the most reasonable practice; though in reclaiming and laying down land to grass a heavy first liming is often indispensable. In arable culture larger and less frequent doses are admissible, both because the soil through which the roots penetrate must necessarily be deeper, and because the tendency to sink beyond the reach of the roots is generally counteracted by the frequent turning up of the earth by the plough. Where vegetable matter abounds, much lime may be usefully added, and on stiff clay-lands, after draining, its good effects are very remarkable, as in this instance it dissolves inert matter that has lain in the soil for years, and renders it available for the use of growing plants. On light land, chiefly because there is neither moisture nor vegetable matter present in sufficient quantity, it is generally preferable to add it to such land in the state of compost. The largest doses, however, which are applied in practice, alter in a very immaterial degree the chemical composition of the soil. The best soils generally contain a natural proportion of lime, not fixed in quantity, yet scarcely or ever wholly wanting. But an ordinary liming, when well mixed up with a deep soil, will rarely amount to one per cent. of its entire weight. It re-

quires about twelve to fifteen tons of burned lime per acre to add one per cent. of lime to a soil of twelve inches in depth. The most remarkable visible alterations produced by lime are upon pastures—a greater fineness, sweetness, closeness, and nutritive character of the grasses, more especially if gypsum and salt be added. At the same time I would take this opportunity of strongly impressing upon your minds the beneficial effects to be obtained from the application of the two latter-named substances in conjunction with lime on pasture-land. On arable lands, the improvements most visible consist in the texture and mellowness of stiff clays, the more productive crops, their better quality, and the earlier period at which they ripen, compared with those grown upon soils to which no lime has been added. This influence of lime is well seen when limed is compared with unlimed land, or when soils which are naturally rich in lime are compared with such as contain but little. Barley grown on well limed land is of better malting quality, and is altogether a much superior sample. More especially is this the case if four to five cwt. of salt per acre be applied; it would then be found that the grain would be plumper in appearance, the cuticle (or outer skin) would be much thinner and more transparent. The turnips off well limed land are more feeding for both cattle and sheep. But this superiority gradually diminishes year by year in land artificially limed, till it returns again nearly to its original condition. On analysing the soil when it has reached this state, the lime which had been added is found to be in a great measure gone. In this condition the land must be either limed again, or must be left to produce sickly and unremunerating crops. This removal of the lime arises from several causes. 1st: The lime naturally sinks, more slowly perhaps in arable than in pasture or meadow land, because the plough is continually bring it to the surface again. But even in arable land it gets at last beyond the reach of the plough, so that either a new dose must be added to the upper soil or a deeper ploughing must bring it again to the surface. 2nd: The crops carry away a portion of lime from the soil. Thus the following crops, including grain and straw, or tops and bulbs, carry off respectively:

25 bushels of wheat,	about 13 lbs. of lime.
40 " barley,	17 lbs. "
40 " oats "	22 lbs. "
20 tons of turnips,	118 lbs. "
8 " potatoes,	40 lbs. "
2 " red clover,	77 lbs. "
2 " rye grass,	30 lbs. "

These quantities are not constant, and much of the lime is no doubt returned to the land in the straw, the tops, and the manure; yet still the land cannot fail to suffer a certain annual loss of lime from this cause. The rainwater that descends upon the land holds in solution the carbonic acid which it has absorbed from the air. But water charged with carbonic acid is capable of dissolving carbonate of lime; and thus, year after year, the rains as they sink to the drains, or run over the surface, slowly remove a portion of the lime which the soil contains. Acid substances are formed naturally by the decay of vegetable matter in the land, by which another portion of the lime is rendered easily soluble in water, and therefore readily removable by every shower that falls. It is a necessary consequence of this action of the rains that lime must be added more frequently or in larger doses where much rain falls than where the climate is comparatively dry. There are four circumstances of great practical importance in regard to the action of lime, which cannot be too carefully borne in mind. These are—1st: That lime has little or no marked effect upon soils in which organic—that is, animal or vegetable matter is greatly deficient. 2nd: That its apparent effect is inconsiderable during the first year after its application, compared with that which it produces after the second and third years. 3rd: That its effect is most sensible when it is kept near the surface of the soil, and gradually becomes less as it sinks towards the subsoil. And 4th: That under the influence of lime the organic matter of the soil disappears more rapidly than it otherwise would do, and that as this organic matter becomes less in quantity, fresh additions of lime produce a less sensible effect. The chemical effects of lime upon the soil, in the caustic and mild states, are chiefly the following: When laid upon the land in the caustic state the first action of lime is to combine

immediately with every portion of free acid matter it may contain, and thus to sweeten the soil. Some of the compounds it thus forms, being soluble in water, enter into the roots and feed the plant, or are washed out by the springs and rains; while other compounds which are insoluble remain more permanently in the soil. Another portion decomposes certain saline compounds of iron, magnesia, and alumina, which naturally form themselves in the soil, and thus render them un hurtful to vegetation. A similar action is exerted upon some of the compounds of potash, soda, and ammonia—if any such are present—by which these substances are set at liberty and placed within reach of the plant. Its presence in the caustic state further disposes the organic matter of the soil to undergo more rapid decomposition, it being observed that, where lime is present in readiness to combine with the substances produced during the decay of organic matter, this decay, if other circumstances be favourable, will proceed with much greater rapidity. At the same time that during the decomposition of organic substances in the soil many compounds are formed which are of importance in promoting vegetation. It is known that a portion at least of the nitrogen which naturally exists in the decaying vegetable matter of the soil, is in a state in which it is very sparingly soluble, and therefore becomes directly available to plants with extreme slowness. But when heated with slaked lime, such compounds readily give off their nitrogen in the form of ammonia, as you observe in the case of the guano. It is not unlikely, therefore, that hot lime produces a similar change in the soil, though more slowly, hastening as I have stated the general decomposition of the whole organic matter, but especially separating the nitrogen, and causing or enabling it to assume the form first of ammonia, and afterwards of nitric acid; both of which compounds the roots of plants can readily absorb. Further, quick-lime has the advantage of being soluble to a considerable extent in cold water—forming lime water. Thus the complete diffusion of lime through the soil is aided by the power of water to carry it in solution in every direction. We will now dwell for a moment or two upon the chemical effects of mild lime when applied to the soil. The term “mild,” as you will remember, I have applied to lime that has been sometime exposed to the air; as I have stated this will absorb carbonic acid and become reconverted into carbonate, the original caustic lime has no chemical virtue over chalk or crushed limestone or rich marl. It has, however, the important mechanical advantage of being in the form of a far finer powder than any to which we can reduce the limestone by art; in consequence of which it can be more uniformly diffused through the soil, and placed within the reach of every root, and almost every particle of vegetable matter that is undergoing decay. I shall mention three of the important purposes which, in this state of carbonate, lime serves upon the land—1st: It directly affords food to the plant, which, as we have seen, languishes where lime is not obtainable. It serves also to convey other food to the roots in a state to which it can be made available to vegetable growth. 2nd: It neutralises (removes the sourness) of all acid substances as they are formed in the soil, and thus keeps the land in a condition to nourish the tenderest plants. This is one of the most important agencies of shell sand when laid on undrained grass or boggy lands. 3rd: During the decay of organic matter in the soil it aids and promotes the slow natural production of nitric acid. With this acid it combines and forms nitrate of lime, a substance very soluble in water, entering readily, therefore, into the roots of plants, and producing effects upon their growth which are similar to the now well-known nitrate of soda. The success of frequent ploughings, harrowings, and other modes of stirring the land, is partly owing to the facilities which these operations afford for the production of this and other natural nitrates. I will now direct your attention to a term I have frequently heard made use of, but which in reality I have never seen the effects so bad as I have heard it represented, viz., “over-limed” land. It is known that the frequent addition of lime, even to comparatively stiff soils long kept in arable culture, will at length so open them that the wheat crop becomes uncertain, and is liable to be thrown out in the winter. To lighter soils, again, and especially to such as are reclaimed from a state of health and contain much vegetable matter, the addition of a large dose of lime opens and loosens them, often to such a degree that they sound hollow and sink under the

foot. This effect is usually ascribed to an overdose of lime, and the land is commonly said to be “over-limed,” an assertion which in many instances cannot be borne out by facts. During my residence in Ireland, upon several occasions in connexion with Dr. Hodges, Professor of Chemistry in Queen's College, Belfast, I caused several analyses to be made of soils said to be over-limed, but which the analyses showed did not in any instance contain more than 14.0 per cent., and some of them as low as .67 only, therefore the quantity of lime was much less than is usually found in fertile soils. I inferred, therefore, that the effects ascribed to the lime were not due to its presence in too large a proportion compared with other soils. The soils referred to had been known to produce good crops of oats when they had lain a year or two in pasture, or when turnips had been eaten off them with sheep, and the ground thus trodden and consolidated by their feet. Oats and clover, we know, prefer a stiffer, stronger soil in which to fix their roots, while turnips and barley delight in a light and open soil. I concluded, therefore, it was the mechanical, and not the chemical condition of the soils, which caused the failure of the turnip and clover crops. My advice was, consolidate them by any means, and these crops will become more certain, and such was the result. The remedies therefore were: to always cut off the turnips with sheep if possible, or to consolidate the loose and open soil by means of the clod-crusher or heavy peg-roller. To use the cultivator as much as possible, instead of the plough, and thus to avoid the artificial loosening of the soil which is caused by too frequent ploughing. Still the question was raised in my own mind, in what way does the lime found in the soil aid the plough in producing this opening of the soil, and how are these effects to be prevented. I offer the following considerations as affording a conjectural explanation of this matter: 1st, The lime, in whatever state it is added to the land, assumes in a short time the state of carbonate. 2nd, In soils which are rich in decaying vegetables, much acid matter is gradually produced by the action of the air. The acids thus produced decompose the carbonate of lime and liberates its carbonic acid more or less copiously. 3rd, The effect of this liberation of the carbonic acid gas may be to heave up the land, to loosen it and lighten it under the foot. In heavy lands this may be less perceived, both because they are naturally denser and more difficult to heave up, and because they contain less vegetable matter, and consequently produce less of these acid substances in the soil. In light, peaty, or thin moorish soils, however, which are rich in decaying plants, the particles of soil are more readily lifted up and separated from one another. Where the temporary solidification produced by eating off with sheep cannot be carried out, the improvement of over-limed land is to be sought for in draining and subsoiling, so as to admit the air into the under-soil, and, after a time, in bringing up and mixing with the surface a sufficient portion of this under-soil, thus gradually increasing the depth of the active soil. In this particular instance lime is of the greatest importance, by rendering accessible to your crops the stores of fertilizing matters locked up in an insoluble state in the rocky particles of the subsoil so turned up, and thus directly affording an essential element to plants; as there is not a plant we grow for food but what requires a certain percentage of lime both in the grain and the straw, or in the bulbs and the tops.

Wheat	2.81	Beans	8.65
Wheat-straw	6.70	Bean-straw	21.29
Oats	5.95	Peas	6.83
Oat-straw	8.07	Pea-straw	38.00
Barley	1.48	Potato	2.07
Barley-straw	9.53	Potato-tops	16.90
Rye	2.92	Red-clover	35.39
Swede turnip-bulb ...	12.75	White clover	26.41
Swede turnip-tops ...	23.27	Italian rye-grass ...	12.39
Carrots	8.83	Cabbage	20.97
Mangold-wurtzel ...	1.95		

From the foregoing table it will be at once seen that it is essential to apply lime to the soil. The beneficial effects of lime in improving the quality of the crops to which it has been applied have long been remarked; thus, when applied to the old grass lands, it extirpates coarse and unpalatable plants, and favours the growth of the tender and nutritious white and red clovers. It adds to the quantity of gluten produced by the

corn crops, and increases the weight of the grain; mixed with salt it gives strength to the straw on mossy lands, where the crops are so frequently lodged. It is also found not merely to improve the quality of almost every crop, rendering the pea more easily boiled, and the potato less watery, but it shortens the period of its growth and hastens the ripening of both grain and roots. To apply to the soil any substance that renders up the organic matter in greater abundance must of course to some extent cause exhaustion, and such is the effect of lime, the exhausting effects of which are well known. It causes larger crops to grow for a certain number of years, after which the produce diminishes, till at length it becomes less than before lime was applied to it. Two interesting questions, therefore, suggested themselves in connection with this circumstance. 1st. How is this exhaustion produced? 2nd. Is it a necessary consequence of the addition of lime, or can it be prevented? It has been stated that lime promotes those chemical changes of the organic part of the soil by which it is rendered more serviceable to the growth of plants. But in consequence of this action the proportion of organic matter in the soil gradually diminishes under the prolonged action of lime, and thus the soil becomes less rich in those substances of organic origin on which its fertility in some degree depends. Again, lime acts also on the mineral matter of the soil, and prepares it for more abundantly feeding the plant. Now, as the crops we raise carry off not only organic but mineral also from the soil, anything which prepares that mineral more abundantly for the use of the plant must cause also a more rapid diminution of those mineral substances on which, as well as upon its organic matter, the fruitfulness of the soil is dependent. By this mode of action, therefore, arises the exhaustion which universal experience has ascribed to the use of lime. But without reference to the chemical processes by which it is brought about, a common-sense view of the question sufficiently explains how the exhaustion arises. It is conceded that the crops we grow rob the soil both of organic and inorganic matter. A double crop will take twice as much, a triple crop three times as much, and so on. And the more we take out in one year the more rapidly will the land be exhausted. Now, if lime by its mode of action enables us in the same time to extract three or four times as much matter from the soil in the form of increased crops, it must so much the more rapidly exhaust the soil, in the same way as we should drain any large vessel by taking out fifty, than by removing only five gallons a day. But we can restore to the soil what the crops carry off. By farmyard and other manures, and by saline applications, we can return everything which lime enables us to extract, and we can by these means not only preserve its fertility unimpaired, but we can materially increase the productiveness of the soil. Manure, therefore, in proportion to the crops taken off, and lime will cease to be exhausting. I well remember reading in an old work on agriculture a couplet, in which I thought there was a good deal of wisdom:

Lime and lime, without manure,
Will make both land and farmer poor!

A MEMBER asked if a dressing of lime was advisable to a field after it had been eaten off by turnips.

Mr. FLEWETT: Most decidedly; it would increase your crop of barley tremendously. The droppings of sheep contain the most valuable constituents of the soil, and, lying as they would entirely in the land, the lime would set them free.

Mr. FERRIS, in answer to Mr. Flewett's assertion that land could not be overdosed with lime, pointed out that it existed naturally in some soils, and, being destructive to manure, he thought it was just possible to overdose with it.

Mr. FLEWETT: Have you ever seen any land over-limed?

Mr. FERRIS: Well, I have seen land where the lime has been suffered to lie in heaps, and I have seen no crop in those places, and I have certainly thought those places overdosed.

Mr. OVERTON: That would only be in the first year; the lime was in a caustic state.

Mr. FLEWETT thought he had explained all that Mr. Ferris had mentioned. He had stated that lime in a caustic state soon absorbed the carbonic acid of the atmosphere, and became carbon of lime. Lime was not a manure. It simply acted on the organic and vegetable constituents of the soil, and rendered them soluble. It did not become soluble itself, but

rendered those properties of the soil soluble that the plants required. For example, many lands abounded in limestone, but it was not in that state that plants required it to be; it was not in a state of carbon. Nature put the means in our hands of fertilising the soil, and science taught us the way to treat it.

Mr. OVERTON said he had always himself felt great difficulty in ascertaining the effects of lime, and spoke rather feelingly on the subject, seeing that for twenty years of his life he had been engaged as a lime merchant to a great extent, having a large number of limekilns. When artificial manure came into use, the use of lime began to decrease. But what surprised him most was the different amounts of lime applied in different localities. In Carmarthenshire it was applied indiscriminately, and he could never get anyone to tell him the reason. He knew it to be so used over a space of twenty miles; and, what was more, it was taken up to the highest localities, where it appeared to him to be the only manure used. It was pretty clear, however, from the lecture that lime itself possessed no fertilising properties, but that it extracted those powers from the soil, and he apprehended that the result of the lecture would be to dispel that idea. One point he wished to be satisfied on. The lecturer had drawn attention to two kinds of limestone, such as they had in their own neighbourhood—the magnesian limestone and the mountain limestone, and it was quite clear that whilst one was of service to the farmer, the other was not.

Mr. FLEWETT: One is injurious, the other beneficial.

Mr. OVERTON would take the liberty to ask if there were no means of practically testing the quality, because they had both in that neighbourhood.

The CHAIRMAN: The lower seams have the most magnesia; the best lime comes from Penwellt, and you have them in Glamorganshire to a considerable extent.

Mr. FLEWETT: Where you perceive the shells in the limestone rock, thence is derived the best lime. Those shells represent the beds of ancient seas. He advised that lime should not be used on the land when the weather had rendered it into a paste. But it would increase the crop of corn very materially if lime were used where a crop of turnips had been eaten off by sheep, setting free the organic substances from the manure deposited by the sheep.

Mr. CORNISH: I take it that the sooner lime is applied the better.

Mr. FLEWETT: Yes.

The CHAIRMAN: Then of the two different sorts of lime in this country, am I to understand that that obtained from the first course is best?

Mr. FLEWETT: No; the lower stratum is the best.

In reply to Mr. De Winton, the lecturer said the two samples of lime he had operated with during the lecture were very good, and contained no large per-centage of magnesia.

A vote of thanks to Mr. Flewett terminated the proceedings.

THE RABBIT EVIL.—A large number of the agriculturists of North Devon assembled at the Unicorn Hotel, South Molton, to present Messrs. M. and F. Place, farmers of Warkleigh, with a testimonial, in the shape of a very handsome silver tankard bearing the following inscription: "Presented to Messrs. Martin and Frederick Place, by some of their agricultural friends in North Devon, as a token of respect and esteem on their leaving Hilltown Farm, and of sympathy for the manner in which they have been ejected from it. March 25, 1871." Messrs. Place had notice to leave their farm at Warkleigh in consequence of their refusal to sign a lease reserving the rabbits to their landlord Mr. Karslake, a clergyman, which it is alleged was submitted to them after they understood they should have the rabbits. A dispute with a Mr. Thorald, the son of another clergyman, who rented the shooting over the farm, led to their ejection, and it will be seen by the very spirited and independent speeches delivered by their brother farmers, that the agriculturists of North Devon have become fully alive to the necessity of some alteration respecting "those pests, the rabbits." Fortunately Messrs. Place have another farm.—*The Western Times.*

THE WINFRITH FARMERS' CLUB.

MEADOW AND PASTURE LAND.

At the last Meeting the subject was the management of meadow and pasture land.

Mr. LONGMAN said we might first consider the extent of meadow and pasture land, as laid down in M'Queen's statistics of 1850. Of course, that is of no very recent date; still, I think we may take his figures into consideration to give us some idea of the extent of meadow and pastures. He takes the area of the United Kingdom to be in round numbers 77,000,000 acres, which he divides in the following manner—arable, 26,000,000; meadow and pasture, 41,000; roads, rivers, coppices, and in a state of nature, 10,000,000. It is also stated that this nation employs considerably over £200,000,000 sterling of tenants' capital in the production of corn and meat; and many millions more in the manufacture of machines and manures, which induce mother earth to bestow good gifts on her children. Now, if we consider the meadow and pasture land to be more than half the area of the United Kingdom, it must well call our attention to the desirability of its improvement. Again, when we consider the large quantity of beef and mutton sent to the London and other markets from our grazing districts, the quantity of butter and cheese produced from other grass lands, and the comparatively high price of meat, butter, and cheese, with the generally low price of corn, we shall certainly be convinced that a great improvement is necessary. If we look around us in the most important corn-growing districts, and see the large number of horses and oxen kept at a great expense, as well as labourers, to do the work on the arable land, the number of costly implements employed, the machinery both of steam and horse power; and, again, when we see the immense flocks of sheep kept, and the amount of feeding stuff they consume; and last, but not least, when we consider the great amounts laid out in artificial manures every year, and this done almost exclusively to enrich the arable land, we might well pause and ask ourselves if more should not be done to the pastures? Not only do we expend large quantities of money, as I have before described, but we frequently house our cattle in the winter months to enlarge and enrich our manure heaps for the benefit of the arable land; and this is a system which, although slowly, will surely degrade our pastures. The depasturing of our flocks by day, and folding them on the arable by night, also has a tendency to impoverish the pastures. This being a butter, cheese, and stock-producing county, there is an invisible but sure decrease of those phosphates so essential to keep up the fertility of the soil going on, by taking from the land those chemical properties of which the exporting commodities are composed; and to remedy this evil the deficiency must be made up in some way or other. I will now touch upon what more immediately concerns us—the improvement of our meadows and pastures. The large extent of land which is under pasture grass makes it a point of no small importance to ascertain the best modes of improving it, and rendering it profitable to the maximum degree. The poor condition of the herbage in too many districts shows that much has yet to be done in improving the fields which yield it. If we begin by improving our wet land, draining is of essential service to pasture land, especially heavy land. Where it is thoroughly carried out it secures that degree of porosity in the soil which is best calculated to improve its productiveness, a natural result of the neglect of drainage being the rise and maintenance of poor aquatic innutritious grasses. These, on the land being drained, will disappear, and at first sight reduce the value of the pastures; but the loss is only apparent, for the growth can be well made up by sowing renovating mixtures of the finest grasses. Now, for draining strong clay lands, drains should not be more than from 20 feet to 24 feet apart; and I think from 3 feet to 3½ feet quite deep enough for land of that description. But if land has a gravelly or sandy subsoil, you may go 4 feet or even deeper, and increase the width between in proportion. As there can be no uniform rule laid down as to depth and distance of drain, the subsoil varying so very much, this point must be left to the discretion of the drainer.

But we must not be led away by the theory of book drainers, who tell us if we drain deep we may drain wide apart in any soil. I have known drains put in 4½ feet deep and 12 yards apart in strong clay land, and in two or three years after, when the clay got close over the drains they were of very little use indeed. However deep we drain in clay land, we must not go too wide apart. In draining strong clay land I should recommend the clay thrown out to remain for some days to the exposure of the sun and wind, which would cause small fissures to form in the lumps, as well as in the sides of the drains, which would admit the water more freely when filled in. I have known drains work very satisfactorily in clay land by cutting the first sod the same width as the bottom of the drain, and put immediately on the pipes, the grass side being downwards. I should recommend a considerable length of drain to be taken out, where the soil would admit, before filled in, so that the drainer may see that he has a uniform depth to lay the pipes in their proper places. In taking out short spaces, and filling in again, I do not think the work can be done so effectually. There are various opinions as to which way the drains should be cut in the land. I do not suggest either as being the best, as sometimes you may, by cutting a few drains across the upper end of a field, dry nearly the whole of it. As regards the size of the pipes used, a two-and-a-half inch pipe would be sufficient for some land, but where the land is of a sandy nature larger pipes should be used. In all cases the principal or carrier drain should be large enough to take the water quickly to the empt to allow the small or feeding drains to empt quickly. It is highly recommended by experienced drainers to put in air drains where convenient, allowing the upper end of the drain to lead into a ditch or some other open space to admit the air, by which the drains will empt more freely, and consequently the land will get dry more quickly. Care should be taken to make some mark at the end of each drain, to see they are not choked up. Draining does not only benefit the land by making it dryer, but by rendering it more porous, so as to allow the rain water to filter through the soil, and leave behind it the gases and nutritious qualities which it contains. Water meadow is the cheapest land to improve, as the water brings fertilising properties with it, which save the expense of artificial manure, also the cartage of farm-yard manure. But this, above all other grass land, should be kept dry, except when you turn the water over it. If it is capable of getting dry as soon as the hatches are drawn out, the water will do twice as much good when it comes over it again. If it is necessary to drain water meadows, you should be careful that the soil be pressed firm in the drains after the pipes are put in, otherwise the water will run in at the top, work down the small earth into the pipes, and stop them up. They should not be watered the following year after draining, but time may be allowed the drains to get firm on the top, when the water will flow over as before. We all know that for a meadow to water well it should be thrown up in narrow beds, so that the water may run swiftly over it, otherwise it will not do half the good, but produce a rough coarse grass. The water that comes from chalky springs is the best, but this is only obtainable in certain districts. The next best is the thick flood-water from the rivers, but that which comes from the heath I think of little use. We should be particular to get the first floods at autumn over our meadows if possible, as the water is then much fuller of manure than afterwards. As, however, water meadows are only possible in certain localities, we must endeavour to improve our other grass lands. Doing this we all know is a difficulty, because we seem to want all the yard manure that we can get for the arable land, as that will bring a quicker, but I should say not a surer, return. To manure strong and heavy land, chalk is a good dressing at the rate of from 30 to 40 tons per acre. It will not only fertilise the soil, but will last a number of years. If that is not obtainable by reason of distance, lime is a good substitute at the rate of about three waggon loads per acre mixed up with the cleaning

of ditches, earth by the roadside, and road scrapings, all of which are good manures for heavy land; or, if lime is applied in a raw state, in heaps of about a bushel, and about 250 bushels to the acre, and spread abroad as soon as pulverised, it will answer a good purpose. To manure light soils, the cleaning out of mud ponds, ditches, rivers, or any heavy compost mixed with yard dung, is a good dressing. Where the herbage is rough and coarse, salt at about 5 cwt. per acre, sown broadcast, is recommended. In some parts of Somerset they use marl—a kind of fatty clay—which has an excellent effect as a manure, put on the land in the same manner as we use chalk in our chalky districts, and about the same quantity per acre, varying according to circumstances. I do not think artificial manure, such as bone-dust or guano, are used so much in this county as a dressing for pastures as in some others. In Staffordshire, a large producing county of butter and cheese and cattle, they annually use a large quantity of bones to restore the fertilizing qualities taken away. According to a prize essay in the Highland Society's transactions, bearing on the use and value of artificial manure as a top-dressing for pastures; it recommends for strong soils guano, sulphate of ammonia, nitrate of soda, and soot, as a good dressing. On light soils compost of earth, bone-dust, cattle urine, salt, sea-weed, and fish refuse are the most suitable, and generally have an excellent effect. Should all these fail to make good pasturage then certainly it ought to be ploughed up. Not that we can be at all certain that if so treated it would be the first time that this or that piece of land has been furrowed by the plough. Thousands of acres of meadows and pastures are producing less than half the quantity of hay and feed which the land is capable of, owing to a deficiency of the grasses which are most productive and most suitable for the soil. In some cases, where the pastures are very foul with weeds and moss, it is advisable to pare and burn the old sward, and resow the land entirely; but in most cases great improvement can be effected by merely sowing renovating seeds which should consist of the finest and most nutritive kinds of perennial grasses and clover in the following manner: Heavy harrows should be drawn over the old turf early in spring to loosen the soil for the admission of the seeds, which, if sown freely, will occupy the numerous small spaces between the grasses already growing, and supersede the coarse grasses and noxious weeds. It is a good practice to sow these seeds at the same time as the top-dressing, if any is applied; but this is by no means necessary. The months of February, March, and April are recommended for sowing the seeds—the earlier the better, as the old grass will protect the young from frost. It is also useful to sow in July and August, immediately after carrying the hay. Should the old turf be very full of moss this is generally an indication that draining would be beneficial. The following is, however, an almost infallible remedy for the moss, not only destroying it, but preventing the growth in future: Mix two cart-loads of quick-lime with eight cart-loads of good light loam, turning the compost several times that it may be well mixed and the lime well slaked; spread this quantity per acre over the pasture, dragging the turf well with harrows. In sowing the seeds choose a fine day, when the land is tolerably dry, but when there are indications of approaching rain: these are much more favourable conditions for the seeds to fall on the land than rainy or showery weather, as they are more likely to be evenly covered, and will be very gradually absorbing moisture from the soil previous to the fall of rain, which they will then be in a condition to receive with benefit, whereas if sown after a shower, which is frequently done, these advantages are not obtained, but the seeds having become saturated with moisture, and the dry weather returns, they are often malted. Cattle should not be allowed to graze at the same season as this dressing is given, or at least not till after one crop of hay has been taken from it. As to the poor chalky hills that are now worth but little for feed, I should recommend that they be broken up if not too hilly, by which we could get double the amount of feed from sanfoin and root crops to what they would produce in their original state, and enough corn between to pay the expenses of breaking. If we have good meadows by no means break them up, but manure liberally, and I am quite sure you will be well repaid for your outlay. I should have mentioned that folding sheep on pasture does not improve it to so great an extent as it does arable land. I should say the difference would arise from the different man-

agement. The manure or droppings from the sheep on the arable land would be ploughed or dressed in, and in the other case it would remain on the surface for a considerable time, and being exposed would lose some of its manuring properties. In conclusion, I thank you, gentlemen, for the kind attention you have paid me, and I trust that by making these few simple remarks it will raise a discussion amongst the more experienced members of the Club, which may throw some light on the subject.

Mr. CHAPMAN SAUNDERS said the subject, a highly important one, had not as a rule received that consideration which it deserved. As Mr. Longman had truly said, a greater amount of attention was bestowed on the arable land than on the pastures. He believed that there was great room for improvement. The poor pastures which could not be improved might, he thought, be converted into arable land with advantage; that, he took it, would pay better. Mr. Saunders alluded to the disappearance of grasses from a meadow notwithstanding frequent sheep-folding, and set down this to the management. He threw out the suggestion that it would be well to change the stock put in meadows—from sheep to beast, and so on—and also that grass should not be allowed to run to seed before it was cut for hay. Regarding the drainage of water meadows, he agreed that much poor land would be improved by draining, but they could not in all cases, he contended, get the necessary fall. In draining water meadows they should, he urged, be careful not to drain too much the first year.

Mr. CHICK said two-thirds of his own water meadow was drained by means of pipes. The other third was not drained on account of its lying too low. One acre of the land drained was worth three acres of that undrained. Both the quantity and the quality of the hay on the former was superior to that on the latter. With regard to the manuring of pastures—his land was light—he did not think that farmyard manure did as much good as when applied to arable land. Road scrapings, or any fine compost of that kind, he recommended for pastures. Reverting to the subject of draining, he agreed with Mr. Longman that on strong clay land care should be taken not to drain too deep.

Mr. SLY agreed with Mr. Longman as to the drainage of pasture land. They had found, he said, that their pasture land had gone back very much. To this he could speak from his own remembrance. Cows and sheep used to be fed on the pasture land the whole of the winter, none of the cows were tied up away from the pastures. The falling off he attributed to the stall feeding now adopted, and referred to the improvement which had been effected in one of his pastures after feeding with hay and swedes upon it. The treading of cows on the pastures was, he said, beneficial. Cow-leaze he had tried to improve with bones and guano. With bone dust applied in the proportion of 8 cwt. to the acre he had observed not the least benefit—not the least difference could be seen after the application. He applied it in April on two pieces of ground of half an acre each. Regarding moss ground he had covered a patch with loose straw, letting the latter lie thickly for some time until the grass grew through; then he raked the straw on to another piece and so on until all the moss was killed—none afterwards was to be seen. Mr. Sly concurred with the remarks of Mr. Longman as to the draining of water meadows. Some land, he pointed out, was so low that the water could not be got off. He dwelt on the importance of draining off the water as soon as it was done with. Water meadows, he thought, were improved by being watered early in the autumn—directly after the hay was cut. It was best when this was done before the floods came. When they were thus early they got pure water; but if they waited until November or December the brewers would have got the best water, and the farmers would have to be content with the "small beer." In conclusion, they ought, he said, to have exerted themselves more in respect to pasture land, which had been neglected for the past thirty years as he himself had noticed. He again spoke against the system of penning up sheep and tying up the cows. He hoped that they should see an improvement in regard to the pastures; this he took to be very necessary considering the present high prices of butter, beef, and mutton compared with the prices of corn. He thought they had heard an excellent paper; he hoped they would try to improve from what had been said.

Mr. R. G. RANDALL liked the idea of sheltering

cattle as much as possible in winter. In advocating the practice of feeding stock in the fields in winter Mr. Sly was a landlord's rather than a tenant's friend. Mr. Randall differed from that gentleman in that respect, for he believed that when sheltered, animals required less food and thrived better than when exposed to the cold. As to the quality of the manure, he thought it was far better when the system of feeding in sheds was adopted, because then they sometimes gave the animals a little cake and corn; the manure in that case must be better than when it was simply made from straw. He did not believe in straw manure. As for draining water meadows, he should like to know a little more on the subject. In the neighbourhood of Dorchester there were some capital meadows; but between Wool and Moreton there were some meadows which really did require a great deal of improvement. Many of those absent could give a deal of information on this subject. He thought that they were all very much obliged to their friend Mr. Longman for having thus come forward. He had only a word or two to add. With regard to the improvement of dry meadows, he believed he must differ from one of their friends as to farmyard manure; he (Mr. Randall) held that the better the manure the more it told on the land.

Mr. CHICK observed that what he had said was that it paid better on arable than on pasture land.

Mr. T. LILLINGTON reminded the landlords of what they could do with regard to the improvement of water meadows. They should, he suggested, so arrange the hatches that the water could be got quickly off the land when done with. Pasture land, he thought, would be improved if they put more manure on it; the more they manured it the better the grass grew. They were much indebted, he said, to Mr. Longman for the able manner in which he had introduced the subject.

Mr. CHICK could not agree with Mr. Sly as to keeping beasts in the field during winter; that system might, he admitted, do the pasture land good, but he did not think it paid in the end. He still held the view already advanced—that a little compost, such as road scrapings, did more good than farmyard manure separately. He did not think they could profitably put farmyard manure on the pasture land, that was if they had a good proportion of arable land. He corroborated Mr. Sly as to the ineffectiveness of bone dust.

Mr. CHAPMAN SAUNDERS gave a practical illustration of the value of clot drains. A meadow of his father's was thus drained some 40 or 50 years ago. The drains were sometimes cut through to get a hare or rabbit; they were good now, and seemed likely to last 100 years to come. He referred to the usefulness of air drains in meadows, and recommended the rolling of dry meads in winter.

Mr. BATES, the Chairman, thought that to some little extent the discussion had turned upon the relative merits of arable and pasture land, or in other words, of corn and cattle. They might fairly say that the subject was "Corn v. Cattle—which is the most entitled to the manure made on the farm?" No doubt arable land did pay well for the manure made in the farmyard, and possibly, he might say probably, it was better to use it on arable land, but if they did so they must find a substitute for the manure now used on the meadow land. He thought they might as well expect arable land to grow a succession of good crops of the same sort without manure as that pasture lands should keep good if continually the same class of stock was grazed on them. A succession of one kind of crop had the same effect on the soil as the grazing of the same sort of stock. One of the leading theories in agriculture was that you must provide the soil with the constituents necessary to produce the crop required from it. He objected to the grazing of sheep exclusively on land. He thought that the exclusive system as applied to any class of animals was objectionable. You found that sheep were very close feeders; if there was a particular plant which they liked better than anything else it was the first to get exhausted. You frequently found that pasture land suffered from a want of change in the class of animals grazed, just as you found land impoverished by growing a succession of the same crop. He was satisfied that they would all do better with their pasture land if they shifted the feeding stock more than they did at present, if they did not so generally adopt the exclusive system in regard to any particular class of animals. Horned stock, horses, and grazing stock generally should be spread over the whole surface; in that case they would have better herbage, and the animals would

thrive better. Mr. Bates pointed out that dairy land especially suffered from want of an adequate return for what was taken from it, dairy cows in the majority of cases living on the minimum of food, and the maximum of produce being taken from the land. He did not begrudge the manure supplied to the arable land, but they should, he held, by liming or bones supply to the pastures the phosphates taken from them. Respecting the draining of water meadows, no doubt, as their friend Mr. Sly had observed, a great deal depended upon the quality of the water used. No doubt a gallon of a certain stream was worth a hogshead of another sort of water; he quite agreed with Mr. Sly in that respect. You could always tell the quality of the water from the bed of the river. The first flows of autumn were, as it were, the "cream"—then the land was in a state to receive it. When the water was done with, it was important that it should run off quickly. It had been found beneficial in many cases to have a system of drains that could be plugged up, so that when you wanted to draw it off the land you had nothing to do but take out the plugs, and thus get rid of the water. Where that had been done it had been found of the greatest benefit; this plan had been carried out on the Duke of Marlborough's property at Blenheim, where the land was drained thoroughly. The water was of a good description, and when the water was first turned on the whole of the drains were plugged up. As for draining clay land, he thought that more than half the advantages and disadvantages depended upon the time at which it was done. Draining strong clay land in winter was the greatest mistake. He thought that even if it cost 1d. or 2d. per perch more to cut drains directly after harvest in clay land it would be much the cheapest to do that. Respecting farmyard manure, he quite agreed with Mr. Chick, as far as that went. Road scrapings were no doubt an excellent dressing for dry meadows that brought up the finer grasses; consisting of ground chalk and limestone, they contained the ingredients which grass land required. But the addition of a little farmyard manure was, he thought, an improvement, and beyond that a little lime and a few half-inch bones. Bone-dust, he thought, too soluble. The importance of the subject would be readily acknowledged when they considered the relative prices of corn and butter, beef and cheese. The prices in Dorset of cheese and butter, and beef had increased more than those of corn (Mr. Hibbs: Yes, double, within 20 years): that showed the importance of cultivating their acquaintance with pasture land. Cheese, which was once 5d. or 6d. per lb. was now worth 10d. The produce of pasture land increasing in value, he thought pasture land was worth additional attention, and that it behoved farmers to cultivate that which paid best. Regarding the sort of pipes used in draining, he thought nothing could beat the round pipes. In the management of the water meadows much depended on the watermen and their management of the hatches, economy and the right use of water; an improvement on these would effect a saving to the landlord and likewise benefit the tenant. Clot drains might answer where there were no rats or rabbits, which were likely to break them down, but there was nothing, as he had just said, better than the round pipes. Mr. Bates then moved a vote of thanks to Mr. Longman for his paper.

Mr. SLY, in seconding the motion, urged the importance of getting rid of the bog water in order to improve the water meadows. This bog water, he submitted, promoted the growth of wiry rushes, and not even a jack could exist in it; it turned earthworms white. He referred to a meandering stream between Wool and Wareham, 20 miles round instead of five miles direct, and contended that it would pay the landlords well to cut a direct line for the streams, enabling them to get rid of the water quickly. He offered to do this if he were compensated for the land saved.

The CHAIRMAN concurred with Mr. Sly on the latter point. The vote was carried, and the proceedings terminated.

THE ROYAL AGRICULTURAL BENEVOLENT INSTITUTION.—The Marquis of Huntley will preside at the annual dinner at Willis' Rooms on Wednesday, May 31st. The general annual meeting for the election of pensioners will take place on Wednesday, June 15th.

INFRINGEMENT OF PIRIE'S PATENT FOR PLOUGHS.

In 1868 Mr Thomas Pirie, Nether Kinmundy, perfected and obtained protection by a patent of his invention of a double-furrow plough. The implement was shown at various agricultural exhibitions throughout Scotland and England, and Mr. Pirie assigned his invention to Messrs. Fowler, the implement makers of Leeds. Subsequently, several double-furrow ploughs were produced by other makers, and amongst them one by Messrs. Gray and Co., Uddingston, near Glasgow, which attracted much attention at exhibitions, and was uniformly successful at competitive trials. Messrs. Fowler considered that the plough made at Uddingston was a copy of the patented implement of Mr. Pirie, and they raised an action in the Court of Session to prevent Messrs. Gray from continuing their manufacture. The case was taken in Edinburgh before the Lord Justice Clerk and a jury, and occupied the Court during four days.

The Messrs. Fowler set forth that Mr. Pirie's invention has for its chief object the diminution of the labour of draught of the plough. The greater part of the weight of the implement is supported on wheels, so that the sole and side plates are dispensed with, by which means the great friction attendant upon the sole and side plates is avoided to such an extent that a pair of horses can draw the improved plough, cutting two furrows at once of uniform breadth and depth for about the same expenditure of energy required to draw a plough as hitherto constructed, cutting only one furrow at a time. The cutters and mould-boards are jointed to an angular frame work, so that they can be shifted in position to cut any required breadth of furrow by means of adjusting screws; the wheels are also joined thereto by means of moveable levers, so that the plough may be raised, or lowered, and guided in the required course; these levers are again provided with screws for adjusting them in the shortest time without the necessity of stopping the horses. The axle of the leading wheel of the plough is attached to another lever, so that when the lever is raised by the attendant, the wheel can be set inwards or outwards as may be necessary, and, when adjusted, the lever is again lowered for securing the joint. The leading wheel runs in the bottom of a previously cut furrow, whilst a wheel on the opposite side of the plough carries or supports that side, and a hind wheel is attached to a moveable mould-board. It was complained that Messrs. Gray were using the invention as described above.

Messrs. Gray maintain that Pirie's plough is not a new invention at all, and made that plea the ground of their defence.

Three issues were sent to the jury, the first as to whether Messrs. Gray between 27th May and 26th July 1870, used the invention described above; second, whether Thos. Pirie was the first and true inventor of the plough patented; and third, whether the invention was used prior to the date of the patent.

The first witness for the pursuers was Mr. F. J. Bramwell, C.E., Consulting Engineer to the Royal Agricultural Society of England, who described the features of Pirie's plough, and on being shown models of Messrs. Gray's ploughs, he deposed that he considered Gray's plough to be constructed on Mr. Pirie's specification. It did not contain all the combinations, but it contained all that was essential and peculiar to Mr. Pirie's invention. It contained two furrow wheels, set at an inclination and attached to a rigid frame. By these wheels the plough was guided in relation to the furrow made by the previous operation, and sole and side plates were dispensed with. It also contained a land wheel, with its power of adjustment. It was different from Mr. Pirie's plough in some unimportant particulars, but substantially it was framed on the specifications of the latter plough. It had been alleged that such ploughs had been in use long before the date of Mr. Pirie's patent, but he had examined most of the documents said to have anticipated the invention, and he was of opinion that none of them embodied the leading principles of Mr. Pirie's invention.

Professor Macquorn Rankine, Glasgow, Consulting Engineer for the Highland Society, gave evidence to the same effect as Mr. Bramwell.

Mr. Thomas Pirie, in his examination, deposed that he had been an implement maker for upwards of thirty years, and that for six years prior to 1867 he had been directing his attention

to the subject of the double-furrow plough. In that year he obtained letters patent, showed the plough at the Royal Northern Show at Aberdeen, and after perfecting some points of detail, completed his patent. He was cross-examined at length respecting the specifications for the wheels, and Professor Bramwell was recalled, and confirmed his evidence that a person of ordinary skill would have no difficulty in finding from the specifications the obliquity of the wheels.

Professor Jenkins, Edinburgh, confirmed the evidence of the previous witnesses, and, in answer to the Lord Justice-Clerk, said there were in Pirie's patent screws for adjusting the width of the furrows, and screws at the levers, which were not adopted in Gray's plough. Some details in the framework were different; and, in Pirie's, the trailing wheel is supported direct from the frame, whereas in Gray's it is attached to the mould-board.

For the defence, Mr. John Gray stated that his grandfather made the first iron plough in Scotland, that he had been thirty years in the business, and that he had made as many as three thousand ploughs in one year. In 1858 he began to make double furrow ploughs. In 1862 his attention was directed to a Canadian plough (Sovereign's) exhibited at the Royal Agricultural Society's Show at Battersea Park. In describing that plough, he would describe the ploughs now before him (the models of his own and Pirie's). It was supported on wheels, guided also without stilts. Some of the ploughs had three wheels—one running on the sward, another in the furrow previously cut, and the hind wheel in the furrow being cut. There was a leverage in connection with the wheels precisely like the leverage of the land-wheel in Pirie's. The plough had no sole or side plates. He considered that steam cultivation and the old wheel-plough suggested the present double-furrow plough. He had commenced to make the ploughs now complained of in August, 1869. He had applied the screw in connection with the lever ever since 1862 or 1863; but latterly he had used a wedge, which he thought had an advantage over the system of set screws used by Pirie. With the wedge, the wheel was raised more rapidly than by the lever, and its position was more correctly regulated. He saw Finlayson's plough at the Highland Society's Show at Stirling, about 1862. It included a screw, by which the wheel was raised or depressed, and which was decidedly an anticipation of Pirie's application. In giving it the form Pirie had given it, there was no invention beyond the conversion of a vertical into a horizontal screw, and that was necessitated by the position it occupied. Every detail of his plough was different from Pirie's, and, besides being different, was original so far as its component parts were concerned. There was greater facility for widening the furrow; the frame was more advantageous in point of strength and simplicity; and he did not rely upon the obliquity of the wheels only to lessen the friction, but upon the obliquity of the wheels along with the adjustment of the line of draught. He endeavoured to avoid lateral pressure upon the front wheel. The hind wheel was set at an angle, which was a very old invention. He did not think it necessary that both furrow wheels should be angular in order to resist the lateral thrust of the furrow. In a cross-examination of great length, he stated that he first saw Pirie's plough in July, 1869, and he brought out his own plough in August. He was hardly pressed to say why he had not brought it out sooner if he knew of it, and said he could give no other answer than that he then first thought the time had come for bringing it out successfully.

Mr. James Howard, M.P., of the well-known firm of implement makers, was among those examined for the defence, and he admitted that Pirie's plough was of a new type, and that the main features of it and Gray's plough were the same.

Counsel were heard at great length, and on Friday evening the jury gave a unanimous verdict in favour of Messrs. Fowler on all the issues submitted to them.

THE JERSEY AGRICULTURAL MEETING. — A Channel Islands United Exhibition will be held in Jersey during the last week in June, to which attention is specially directed. One judge for the famous Alderneys and another for implements will be selected from England, and the committee is very desirous of getting up a good show of machinery suitable to the requirements of the small farmers of the Islands. There will be accompanying exhibitions of horses, dogs, poultry, and flowers, and the occasion promises to be quite a gala week.

FARMERS' QUESTIONS.

"The Government proposed to rate metalliferous Mines, Timber, and Game; also rights of way and canals. Mines should be rated in the same way as other property, and after dealing with metalliferous mines it would be the duty of the Government hereafter to attempt the rating of coal mines."—

"Both justice and public policy required that owners should pay a portion of the rates. At present the system of contracts made between the occupiers and landowners was that the occupiers engaged to pay all the rates; but the new rates—the increased rates—which had never been foreseen by either party, at present, according to the contracts, fell exclusively on the tenants, and it was impossible to say that the tenants ought not to demand a deduction of rents on that account. The increase of rates should then in future be divided between the occupier and the landlord. He ventured to say, notwithstanding what he had seen in print, that it would be a great relief to farmers, as well as persons residing in towns, that one-half the rates should be put upon the owners."—

"One of the first purposes to which they proposed to turn the organisation of the parishes under this bill, was to utilise it for the end of creating those County Financial Boards which had been so frequently urged upon the attention of the House. The Government were anxious to find out the best means of electing those County Boards. The great difficulty in the way was the election of the representatives of the ratepayers in the counties where the area was very great. It was suggested that the guardians of unions in the counties should elect representatives; but as some of those unions overlapped counties, there would be a considerable obstacle to this mode of proceeding. It was then proposed by the bill that the chairman of the local boards through the petty sessions district should elect representatives from amongst themselves to represent the ratepayers at the County Financial Boards, that those boards should be composed one-half of the representatives of the justices, and the other half of the representatives of the ratepayers, the area for the election to be the petty sessions district."—

Here are three great questions which the farmers of this country have had under their consideration for some time past adjusted very much in the way in which the farmers themselves would have recommended. That mines, game, and woodlands should be rated has been the pretty general resolution of all agricultural institutions where the subject of taxation has been put forward for discussion. And now the Government promises that these possessions shall be rated just as any other property. Again, the petition of the local ratepayers, of the Farmers' Clubs, and the Chambers of Agriculture has long been that—we quote from one before us—"Your Honourable House will be pleased to enact a measure for the separation of the financial from the judicial duties of county justices, and to appoint County Finance Boards, in which the ratepayers may be fairly represented, for the management of the county finances." And now the Government proposes to establish such Boards precisely on the plan which the farmers have so strenuously advocated. Then the legal fiction as to the landlord paying the rates, when in point of fact he does not—or *vice versa*, as it cannot greatly matter how the proposition is put—this is to be simplified, and for the future the owner is to be liable, share for share, with the occupier. Here, too, a majority of agriculturists have for some time been of this way of thinking. At a

meeting of the Farmers' Club just two years since, Captain Dashwood, a tenant-farmer occupying upwards of a thousand acres of land, a Poor Law Guardian and a Magistrate, read a paper on Local Rating, in which he said, "In England owners have not had brought home to them the necessity of taking their proper share in the administration of work in which they are really so largely interested. On comparing the systems of rating, it appears to me that England is now under the worst, and Scotland, as a whole, on the best system. But the important difference I wish specially to point out, and to urge on your attention is the system of half-rating as adopted and carried out in Ireland as to the Poor-rate. This I believe to be the key-note to all our troubles in matters connected with rating. This system of Half-rating has been found to work so well in Ireland as to the Poor-rate, that there is now a bill before Parliament for the same system to be extended to the County rate, which rate includes, as I have stated before, the highways. Ought not the following to be the machinery of all rating, namely, that all rates should be paid half by the owner and half by the occupier?" At the same meeting, Mr. Sewell Read said that, "the more people were interested in the payment, or rather the administration of rates, the more likely it was these would be properly administered;" which, as we take it, is a like an argument in favour of half-rating and Financial Boards, although since then Mr. Read would seem to have qualified his opinions. Mr. J. A. Nockolds, "as a land agent, representing in some degree the owners of landed property, thought that if they were made liable more or less for the payment of rates which were now paid entirely by the tenants, that would tend to the better control of the poor-law system, and the better expenditure of the rates, because, as a rule, landlords had more time on their hands than tenants, to whom a loss of time was, in fact, a loss of income. If he had let a farm for £300 a-year, and the owner of that farm were made liable for £25 a-year in rates, the next time the farm was to let he should certainly ask £325 a-year for it; but at the same time he thought advantage in the shape of greater control and increased efficiency would arise from making landlords pay a portion of the rates." Mr. T. Congreve, a large farmer in the Midlands, said "The owners of landed property in England knew nothing about rates; and he thought the suggested payment of half the rates by the owner would be a very great improvement on the present system, as it would tend to give him an insight into the expenditure, and to dispose him to endeavour to check it. Another important point was that all the ratepayers should have a voice in the expenditure of the county rates." Here also is a farmer asking for Half-rating and County Boards in the same breath. Mr. Smythies, from Herefordshire, another well-known agriculturist, thought "the adoption of a system of Half-rating would prove very beneficial, by directing the attention of landlords to the expenditure for the poor;" and Mr. Trask, from Hampshire, said, "as regarded the Half-rating system and the advantages expected from it, that tenant-farmers well represented, in his opinion, the common sense of the country, well understood the requirements of labourers, and were well fitted to be entrusted with the administration of relief; while, on the other hand, however well educated a landlord might be, that could not give him the common sense needed to deal

with such cases;" while Mr. Ralph Newton, from Oxfordshire, in closing the discussion as chairman of the meeting pronounced "the principle of rating the landlords to be a sound one." The Dilton Farmers' Club had just previously declared itself very much to the same effect, as this kind of evidence might be extended, although a certain section of the Central Chamber of Agriculture has refused to acknowledge the justice of such an arrangement.

Game Covers and Mines then are to be taxed; County Financial Boards are to be established; Rates are to be divided between owner and occupier, and yet, as Mr. Toole says, "we are not happy." The Central Chamber of Agriculture, indeed, where the landlord element is quite as strong as that of the tenant, is already in arms, for, as *The Saturday Review* plainly puts it, "the Bill has been adroitly framed for the purpose of detaching the farmers from the interests of the landlords." No one, indeed, can read Mr. Goschen's address, and the reforms or alterations he advises, without seeing that the interests of the landlord and tenant are not here identical. As *The Saturday Review* says, speaking to the new Boards, and speaking more plainly still: "When two classes having distinct and conflicting interests are combined in one body, representation by a minority is equivalent to no representation whatever. It will not be worth the while of the owners' guardians or councillors to attend meetings in which they will be steadily outvoted by a compact majority of tenant-farmers. The antagonism of interests created by the Bill will effectually exclude landowners from election as parish chairmen." Our contemporary, it must be understood, is siding altogether with the landlord, and hence the strong line drawn between the two parties. But assuming, as some people will have it, that these interests are identical, by when is it probable that the landowners of this country would have made up their minds to go for Game Taxes, County Boards, and Half-rates? Let us say by doomsday. Nevertheless, these are questions with which farmers' meetings have long been identified, even if the magistrates have not yet come to petition for their adjustment when in Quarter Sessions assembled.

The Half-rating proposal will most probably cause a deal of discussion, as it is one on which the farmers themselves are perhaps not altogether agreed; while *The Saturday Review*, for the landlord, puts the ultimate effect fairly enough: "The great proprietors, and the owners of the most fertile lands where the demand for farms always exceeds the supply, will at once be able to add to their rents the amount by which the tenants' rents will be diminished. Mr. Goschen himself cannot fail to understand that his prohibition of freedom of contract will be nugatory, unless the landlord is, by some still more revolutionary measure, prevented from raising his rent, as well as from contracting that the tenant shall pay the landlord's portion of the rate." Of course this must be the inevitable result, just as in the other way, if the landlord had succeeded in obtaining any material reduction of rates, he would on the first opportunity have made a proportionate advance in the rent. But it is in the interim that the injustice occurs, when the tenant holding on a long term has to pay all the fresh taxes, which in common but expressive parlance he has never bargained for, and against which injustice the half-rating system would act. But "unluckily for this argument," says *The Saturday Review*, "it happens that rural rates have not increased and are not likely to increase;" whereas we had thought that such increase was one of the chief points urged in the movement over Local Taxation. Did not, indeed, Sir Massey Lopes himself especially dwell on the increased cost of the rural police? and this is surely something of a rural rate.

It is clear enough that in the new Bills certain concessions are made to the tenant-farmers, for the obtaining of which that class has long been moving. It is also equally evident that the claims of the landlords are as directly disregarded. Mr. Goschen says in so many words that "the owners of lands have not the grievances to complain of which they talk, and that the burden on land has very considerably decreased, the increase only taking place in particular years." And here of course the Government and the County Party will join issue, *The Saturday Review* being very careful to have it understood how it was "Sir Massey Lopes and the country gentlemen who supported the motion for inquiry into the charges on real property," &c. In fact, from the way in which the business has been worked in Quarter Sessions and elsewhere, the local taxation cry has been a deal more a landlord's than a tenant's plaint; while in the new Bills far more attention is paid to what the tenant has to say for himself than when he has suffered others to act as his mouthpiece. Is this so far satisfactory, or is it not?

LOCAL RATING AND LOCAL GOVERNMENT.

Mr. GOSCHEN, in moving for leave to bring in two Bills to amend the laws relating to rating and local government, and to make better provision respecting the liability of property to local taxation, and for other purposes connected therewith, said that he rose, in fulfilment of the pledges of the Government, to say that they were now prepared to propose to the House legislation upon the subject of local taxation and local government. The House was aware that these two subjects were so closely interlaced that it was scarcely possible to deal with one without dealing with the other, and for this reason, that in all local government it was the ratepayers who had the *locus standi*—they were the electors of all local authorities, and the consequence was that the system of local taxation or rating was so closely bound up with local government that it was scarcely possible to touch one without touching the other. Again, our system of local government was that the taxes were levied over local areas; and it was impossible to deal with the question of rating without touching the areas, or to deal with the areas without touching the system of local rating. This was the reason why the Government had always felt that they could not touch local rating without dealing also with local government. He would further add that there was a commission appointed some time ago which had very ably and elaborately reported—he alluded to the sanitary commission—and they recommended that it was incumbent upon the Government to look to the operation of local government, and he had included in his Bills such portion of the report of the commission as they thought they had a chance of passing this session. The subject was so vast that he believed that it would be impossible to deal with every portion of it in the course of one session. They must endeavour to legislate as far as they could; and, above all things, it was their duty to make up their minds clearly as to what they wanted, and to put a stop to the piecemeal system of local government that had produced the existing chaos (Hear, hear). One of the endless sources of confusion was that the end sought for the hour only had been considered, that bills introduced either by the Government or by private individuals had referred simply to the immediate object then before the House, and an attempt had never been made to fit in the new pieces of legislation with the old. The consequence was that all the country was covered with overlapping areas and conflicting jurisdictions. It was impossible to lay hold of any principle that had governed Parliament; and the Royal Commission brought out this portion of the subject in startling colours. Not only was there this difficulty, but the same confusion had been reproduced from the most remote time upon the subject of the rates which were at the disposal of the various local authorities. There was the old poor-rate, and every new subject was provided for by a new rate; but, after a time, a portion of these rates were merged in the poor-rate, and the overseers were directed to pay so much as was required by the other authorities levying rates. It was found that with the overlapping

areas it was impossible to levy the whole rate with the poor-rate; and therefore, while, for instance, there were the county rate and the general rate generally levied with the poor-rate, yet in other cases they were levied separately. In the same way, other rates had been generally levied with the poor-rate, but in other cases it was not so; and in the annual reports of the Poor-law Board there was a column in which it was stated that borough, hundred, county, and police rates were paid out of the poor-rate; but how much was paid for each of these purposes no person had ever analysed the matter so as to know, and the confusion was increased by the fact that the accounts of the various boards were made up to various dates in the year, some to September and some to the 31st of December, and therefore it was impossible to arrive at any coherent view of any of our local rates. Two committees had sat upon local taxation, and there had been for many years past the view that it was absolutely necessary that all rates should be as far as possible consolidated, and that the same principle should be applied as far as possible to all of them. The effect of all this was that we had a chaos as regarded authorities, we had a chaos as regarded rates, and a worse chaos still as regarded areas. In addition to all this there was every different form of election applied to various local authorities administering these various rates for various purposes. It was a very curious fact that while the principles that governed these matters might be supposed to be very similar, yet in the case of the election of guardians and local authorities, and highway surveyors, overseers, and other local and parochial authorities, there was a different form of election for nearly all of them. In certain cases the election was by a plurality of votes; in others by single votes; in some cases the election was by owners and occupiers, in other cases by occupiers alone; and where they had a plurality of votes they had one scale for the election of guardians and another for highway surveyors and waywardens; and the Government were anxious to deal, as far as possible, with these matters, and to see whether some kind of order could not be introduced into this chaos. But kept separate from this was the question of the burdens borne by the various classes of property. Side by side with the question of simplifying local administration it had been the duty of the Government carefully to examine and arrive at a decision upon the allegation made by ratepayers that real property was burdened beyond what it ought to be, and that it was necessary that great reform should be made. They had to deal with these two classes of subjects, the administration and the local grievances of ratepayers. The House would observe that notice had been given of two bills, and the reason was this—that so far as local administration was concerned they did not propose this year to deal with the metropolis, and therefore the reform as to local Government would apply to the country only, exclusive of the metropolis. As to the grievances of ratepayers, it would be exceedingly difficult to take measures to apply to a part only of the kingdom, and therefore it was necessary to divide the subject into two portions, in order to meet the difficulty. The House was acquainted with the vastness of the subject that the Government had to deal with, and he need only say that the amount of rates levied in England and Wales was £16,500,000, and if they added to this the amount raised by indirect taxes, tolls, dues, fees, and subventions made by Government, the amount received from the sale of property, rents, and miscellaneous sources, and the receipts from loans, the whole would reach to a total of £30,000,000 administered by local authorities. The total amount for England, Ireland, and Scotland was £36,000,000. Then, as regards the number of bodies administering the rates. The local authorities amounted to about twenty, but some of these were what were called maritime authorities, and if these were deducted there remained sixteen different classes of local authorities, elected upon different principles, with procedure entirely different the one from the other, and standing in very little relation to one another. He was sure the House must feel that they must approach the subject with considerable anxiety, and it would be the duty of the Government, and he believed they would do so with success, to appeal to the House to support them in their task, irrespective of the local pressure which was certain to be brought to bear upon many members when they came to deal with existing local institutions. But the desire for simplicity was so great that he was convinced the House would support them when

they came to that part of the subject, and that they would not mind if some local forms of government were very materially changed in order to secure efficiency and simplicity (Hear, hear). In the first instance, he might say that Government proposed to accept entirely the resolution of the select committee of the House of Commons which sat two years ago, and decided in favour of the consolidation of all rates into one (Hear, hear). That resolution was reaffirmed by a select committee which sat last year. Government proposed, in the first instance, that instead of the present system of various authorities being entitled to levy separate rates, only one rate should be levied, and that every authority which was entitled to raise funds now should secure those funds by a requisition upon the general rate. Government proposed that the boards of guardians, the highway boards, the county justices, the local boards, and the town councils, should all at a particular date in the year send in an estimate of the amount which they would require in the course of the year. The parish officers would add all these together, and would accordingly be able to estimate what total would be required from the parish for the whole of the year. A demand note would be sent specifying all the items of which the rate was composed; that demand note would have to state how much was required for the relief of the poor, how much for the purpose of the highways, how much for the county expenditure, and the whole was to be brought into one, to be collected in one sum. This was a reform which it appeared to him would be of very considerable use and convenience (Hear, hear), because not only would there be an immense saving in the cost of collection, but there would be that kind of simplicity that every ratepayer would know that which he (Mr. Goschen) was sure he did not know now, what rates he paid in the course of the year, and what he paid those rates for (Hear, hear). But, besides this advantage, this change involved many corollaries, because the rates which were collected separately were collected upon different principles and on different valuations, and the deductions which were made from one rate were not the same as were made from another. For instance, two years ago the Assessed Rates Act was passed, by which the owner was made rateable instead of the occupier in a certain class of tenements. That could only be applied to the poor rate, and consequently there was this anomaly, that while the owners were rated for the poor rate, it did not follow that they were rated for other rates at all: it was possible that there was a tenement in the town where the occupier was not rated, but the owner was rated in his place for the poor rate; while in another case the occupier would be rated and the owner not; and it was possible that in the one case there might be a deduction of thirty per cent., and in the other there might be a deduction of 20 per cent. It was clear there was no reason at all for such a difference, and the House having adopted the principle of rating the owner instead of the occupier in the case of the Assessed Rates Act, there was no reason why precisely the same principle should not be extended to other rates, and consequently to the consolidated rate. And there would be a clause in the Bill that the Assessed Rates Act should apply to the consolidated rate (Hear, hear.) Then, as regarded the question of audit, Government proposed that, having one consolidated rate, there should be also one consolidated audit of all local funds over the country (Hear, hear). At present the expenses of the poor-law guardians were looked into very carefully, the expenses of local boards were also audited, but boroughs were exempt from this audit, and the accounts of highways were audited only by the justices, but they did not go into the question of the legality of the expenditure and the audit was therefore very perfunctorily performed. On the part of some local bodies there might be some little reluctance to an audit, but he believed it would be easy to introduce an efficient system of audit throughout the whole of the country. There was another difficulty connected with this consolidated rating which was considerably more serious. The House was aware that the political franchise depended upon the payment of the poor-rate. It did not depend upon the payment of the other rates. Government would have to consider what would be the position of the ratepayer and voter when the consolidated was substituted for the poor-rate, and when the poor-rate really vanished altogether, because the House would see that as soon as the consolidated rate was enacted there would

be no question of the poor-rate or county-rate, all these rates would have vanished, and there would be simply requisitions for these purposes on the county authorities. Government would have to consider whether the payment of the consolidated rate should be substituted for the payment of the poor-rate for the qualification of the franchise. The consolidated rate would naturally be very much higher, perhaps twice as high, as the poor-rate, and if they were to enact that the same provision should hold good as regards the consolidated rate, that would be very materially increasing the difficulties which were pointed out last session, or the session before, by the hon. and learned member for Oxford. The House was aware that by the Assessed Rates Act the vote was reserved to the occupiers, notwithstanding the rates having been paid by the owners; and as regards the poorest class of occupiers—namely, those below £8, it did not seem as if the house attached any great value to that part of the Reform Act—namely, that the rate should be paid by the occupier. Government proposed that the fact of being rated for this consolidated rate should qualify for the franchise in place of payment of the poor rate (Hear, hear). Though Government would have preferred not dealing with the semi-political question in this Bill, it was absolutely necessary that the matter should be dealt with, and that the consolidated rate should not be allowed to become a difficulty which might possibly have disfranchised a large number of occupiers; for the House would remember that it had been shown that when the owner had engaged to pay the rates the occupier would be disfranchised by the act of the owner, and it was contended that the occupier would be always able to pay the same and to recoup himself by deducting the amount from his rent. That applied to the poor rate. The consolidated rate was so much higher that unless some such provision was adopted, such as he had pointed out, a large number of occupiers might be disfranchised. Having consolidated the vote, Government had to consider the next point, which was this—over what area was the rate to be collected. He did not propose to disturb the incidence of the rate as between parishes and local boards, but he proposed that there should be rate collectors all over the country, and that the system at present in vogue of the rates being collected by overseers who were not responsible, should be abolished (Hear, hear). He considered that the services of paid collectors would be far more efficient, and that where they had been adopted there had been a considerable economy in the collection of the rates, notwithstanding the salaries which were paid. He did not insist that every small parish should have a collector, but he insisted that there should be a paid officer who did not go out of office every year, who should thoroughly learn his business, and be responsible for the collection of the consolidated fund. He had said Government had to consider over what area the vote should be collected—what area should be taken as the unit in all the aggregated areas with which the country was covered. Not only was there these overlapping areas of which he had spoken, but there was not a single area which was not cut by other areas. The parish, for instance, was cut in two by the local board, and part was inside the local board and part was out. Then there was the case of a large parish with a local board in the centre, occupying a remarkably small portion of the parish, but with separate government, and in the extreme corner of the same parish would be another local board. It had been suggested that the poor-law union should be the area of local government generally. Now that was almost impossible, for out of 650 unions there were 250 at least which were partly in one county and partly in another, and in the case of boroughs some parts of the union were partly within the borough and some were partly without. Again, unions did not coincide with the highway districts. Unions had been so mapped out that the workhouse was situated in a central part of the union, and it was necessary to consider what distance the poor had to travel in order to get to the workhouse. To reconstitute the whole of the unions, and make them coincide with the boundaries of boroughs, highways, and counties, would be almost impossible, and an attempt to do so might, for the sake of uniformity, sacrifice the arrangements which had been made for the convenience of the administration of the union. On the whole, after mature consideration, it appeared to the Government that the best resource was to take the parish, which, although it overlapped other boundaries, did not do so to the extent of the union. The rectification of the

boundaries of parishes was also infinitely easier than the rectification of the boundaries of unions. Nothing could conduce more to the simplicity of local administration than if they could secure this object—that no parish should be cut in two by the boundary of any other area—that there should be a given number of parishes in a union—and a given number in a highway district. The Government, therefore, preferred to deal with parishes. But they were met with this difficulty, that of all the defective arrangements for the purposes of local government the arrangements of a parish were commonly the worst (Hear, hear). There were overseers, who although nominated by the vestries were really appointed by the justices. In one of the Highway Acts it was provided that the highway surveyors were to be appointed at the same vestry meeting at which the overseers were nominated, but there were no legislative enactments for calling the vestry together on a particular day for the election of overseers. They had the vestry, the overseers, inspectors of lighting and watching, the waywardens, and the highway surveyors, each of whom was elected in a different way, but they were not brought together in any systematic manner. The parish had no civil head. And the greatest difficulty had been found in working the Education Act, and many sanitary acts, from not knowing with whom to correspond in the parish. The parish ought properly to be represented by the overseers, but their functions were defined by statute, and they had no other functions. The vestry had most undefined powers, and there was no one to call them together and no one to preside over them. Everything was done in an irregular way. The vestry could not hold property, which could only be done by trustees. Then, he might ask, was that a proper organisation? Now the Government proposed to reconstitute the parish entirely. They proposed that every parish should have what he would call a civil head—a person who should be responsible for the affairs of the parish; that the ratepayers in every parish should annually elect from amongst themselves a person to be called the chairman of the parochial board, who should be associated with a certain number of other members of the board, varying from three to twenty, according to the population of the parish; and that to this regularly constituted body should be transferred the duties now exercised by the overseers, by the highway surveyors, by the lighting and watching inspectors, and the executive duties of the vestry. It was clear that the vestry was not a proper, competent, or efficient authority for carrying out various acts of Parliament, contracts, and the construction of sewers. The difficulty had been so great, that in some districts select vestries had been appointed and superseded the old ones. The Government had to choose between a vestry too large for the performance of business and one too small to represent the wishes of the parish. They proposed to have a small executive board—that the chairman should be its organ, mouth-piece, and representative in every sense. He would now point out the arrangement which he proposed with regard to the consolidated rate. A requisition would be sent in to the chairman of the parochial board, which would make the rate without going through the empty form of applying to the justices, who frequently know nothing whatever of the circumstances of the parish. At present the duty of an overseer was a burden which no one liked. He thought it desirable that the office of chairman of the parochial board should be an office of honour—that he should be a principal person in the parish. He trusted that such a person would be elected as would inspire the confidence of the ratepayers, who would know that the financial affairs of the parish were safe in his hands. It was provided by the bill that the parochial board should be elected by the vestry of every parish on the 25th of March in every year, and should consist of a chairman, and a certain number of other members, not being less than three, nor more than 20. There was a further clause by which the chairman of the parochial board would represent the parish in all matters appertaining to the act. In respect to many parishes, which were too small to elect an officer of this kind, there was a provision in the bill which declared what were the number of the vestry did not exceed 12 members such vestry could itself become the local board. The members of the parochial board would have to perform all those duties which were now performed in a disjointed manner by various parish officers, but who were not under any proper authority. The parochial board would be assisted by a paid

collector, who would execute those duties which could only be properly done by a salaried officer. There would be no further expense incurred by the formation of this board, because the bill provided that the clerk of the vestry should be the clerk of the parochial board. Leaving to the vestry the ordinary functions which belonged to such a body, it was merely proposed to transfer the executive portion of their duties to the parochial board. There were many other advantages to be obtained from the establishment of this system. At present it was very difficult to find out the representatives of parishes when it was desired to combine several of those parishes together for any particular object, and then it was necessary to have separate elections for the highway board, for the board of guardians, &c. But having by the bill appointed a chairman of the parochial board who represented the parishes, it would be easy to aggregate parishes together for any given purpose. It was further proposed to substitute for the present system, under which there was a variety of elections necessary, one by which the parish officers would be elected together at one election (Hear, hear). The bill also provided that these elections should take place by ballot—thus introducing the principle of the ballot into all the parochial elections (ironical cheers from the Opposition). The object was to establish one general system of elections throughout the country—a system with which the people might be familiarized (Ministerial cheers). One of the first purposes to which they proposed to turn the organisation of the parishes under this bill, was to utilise it for the end of creating those county financial boards which had been so frequently urged upon the attention of the House. The Government were anxious to find out the best means of electing those county boards. The great difficulty in the way was the election of the representatives of the ratepayers in the counties where the area was very great. It was suggested that the guardians of unions in the counties should elect representatives; but as some of those unions overlapped counties, there would be a considerable obstacle to this mode of proceeding. It was then proposed by the bill that the chairmen of the local boards through the petty sessions district should elect representatives from amongst themselves to represent the ratepayers at the county financial boards, that those boards should be composed one-half of the representatives of the justices, and the other half of the representatives of the ratepayers, the area for the election to be the petty sessions district, and that the chairman should sit with the county justices on the financial board.

Mr. LIDDELL: Are they to sit *ex officio*?

Mr. GOSCHEN: The chairmen of the various parishes were to elect a certain number from themselves to represent them at the county financial board. There should be then established in every county for the administration of the local affairs of that county a county parochial board; consisting of the Lord-Lieutenant of the county, the chairman of Quarter Sessions, the representatives of the justices of the county, and the representatives of every parish, to be called parochial representatives. The residue of the plan as regarded the county financial boards would be very nearly that which had been on more than one occasion presented to the House. Up to this time it was proposed to reform parish organisation, and at the same time to create a new county reorganisation. He now came to a very complicated part of his subject, namely, the question of sanitary authorities. As regarded sanitary powers, a broad distinction must be taken between towns and country. As at present arranged in the urban parts of the country there existed the general improvement commissioners and the local boards administering certain sanitary laws. Beyond the towns there was a very small portion of the sanitary laws confided to the boards of guardians; and in other places again the vestries were entrusted with certain powers. As regards towns the position was not altogether satisfactory, because there was both a town council and a local board, and in many cases this arrangement does not work well, as they clashed with each other. He proposed that wherever there were two boards within one continuous district, the one board should merge in the other. On the general question of the sanitary authorities, he proposed to adopt in some respects the recommendations of the sanitary commissioners, as regards their powers, in some respects, but at the same time he did not propose to legislate fully on the point, being unwilling to overweight the Bill. The rural portions of the country and the outlying portions of towns were those that first called for attention. They

were the worst looked after, and yet these outlying parts objected very much to be taken in because of the consequent increase of rates, while the boroughs equally objected to take them in because of the consequent extension of the municipal franchise. Then they would have to consider what sanitary areas they would institute in the country. It was a very difficult point. It had been suggested that the High-bury district would be most suitable, and there were many points in their favour; but on the whole he had come to the conclusion that the union would be a better area. The sanitary commission had recommended that the union should be adopted in cases where it was not situated within a borough, nor within a local board district, and he had adopted that recommendation. It might be said that there were objections to the guardians becoming the sanitary officers; but, on the other hand, there was the advantage of being able to use their staff of clerks, which more than overweighed the theoretical objection. There would be numerous cases where they would have to take in half a union, and in such cases they proposed that the sanitary board should consist of the guardians of the parishes in that part of the union, and of the chairman of the vestry. Thus they hoped to cover the whole of the country with sanitary authorities, with whom the Home Secretary would be able to co-operate. Thus far they went with the sanitary commission, though in other points they had been unable to adopt their recommendations. The Bill also proposed, in regard to sanitary laws, to enact that the sanitary authorities should be compelled to provide in every district a proper place for the disinfection of clothes, and carriages for infected persons, and other arrangements proper for the prevention of infectious disorders. Recent events had shown how necessary it was to deal with this question, and he hoped for the support of the House in carrying it out. It would be a great convenience that this task should fall upon the guardians, who were in many respects peculiarly well suited to discharge it satisfactorily. The Government had also considered whether there should not be one minister to provide over the various departments that would be concentrated by the Bill (Hear, hear). Hitherto there had been no minister in that House whose duty it was to check the increase of the rates, as it was the duty of the Chancellor of the Exchequer to check the increase of taxation. Part of the rates had been under the supervision of the Home Department, and part under that of the Poor-law Board. It was considered highly desirable that this state of things should cease, and that there should be a responsible minister in the House, whose function it should be to take the whole question of rates and their increase under his consideration. The Royal Commission came to the same conclusion as the Government, that for sanitary purposes it was most desirable one department should have the control of the whole legislation on the subject. All matters relating to local government and local rating would be placed under the control of one central department, a portion of the work would be done by the Home Office, a portion by the Privy Council, and a portion by the Poor-law Board; but as they might be a prejudice against associating the question of the administration of the poor with that of the administration of local affairs generally, it might be desirable to change the name of the Poor-law Department. Although these reforms were very considerable, they might be carried out with comparatively few clauses; and if the scheme commended itself to the house he had no doubt it might be passed during the present session. As regarded the ratepayers there were four grievances. It was said, first, that while real property generally was liable to local taxation certain classes of real property were exempt; secondly, that the mode of valuation of certain classes of property unduly favoured those classes; thirdly, that the occupiers alone paid the rates, and that the ground landlords in many cases, and the owners in others, escaped taxation; and, fourthly, that altogether the occupiers and owners of rateable property paid an unfair share of local and imperial burdens. With the first three grounds of complaint the Government were prepared to deal, and he would state their views on the fourth ground—that the exemptions of certain classes of property had mainly arisen from the interpretation put by the law courts on the act of Elizabeth, to the effect that because certain classes of property were mentioned in the act all others could claim exemption, and thus Government property, metalliferous mines, timber, other than saleable underwood, with some other less

important descriptions of property, escaped rating. On the other hand, however, the courts had not uniformly adhered to the rule stated, for they had held that houses being expressly mentioned, other buildings were rateable. It was now distinctly to be enacted that "every hereditament, corporeal or incorporeal, in any parish, save as expressly excepted by the act, shall be rated to the consolidated rates of such parish;" the exceptions being such as rent-charge, which, if rated, was liable to be charged for twice over. Government property would be rated as all other property; but it must be understood that its claims to exemption were considerable, and that if this concession were made there must be no demand made for the exemption of charities, municipal buildings, or any other description of property. All hereditaments, visible or invisible, should be liable to the tax. The Government proposed to rate metalliferous mines, timber, and game; also rights of way and canals. The Government would have been glad to provide for equal valuation, but they feared that if they embraced in this Bill any proposal for the establishment of valuation boards they might so lengthen discussion as to endanger the possibility of legislation on the general subject within the present session. It would be difficult with many classes of property to say what it would be let for from year to year. That difficulty arose in the case of coal mines; and they had been much inclined to legislate specially in regard to coal mines, but as they had found much difficulty as to the best mode of doing so, they had concluded that it would be impossible to satisfy each particular case; but they had agreed that mines should be rated in the same manner as other property. It had been found impossible to organise one general system upon a broad basis of rating mines, and, therefore, in the present Bill they did not attempt it; but after dealing with metalliferous mines, it would be the duty of the Government hereafter to attempt the rating of coal mines. There were cases where the value of property could not be calculated as being let from year to year, and a certain amount of irritation had sprung up among the farmers where a large property had been rated at a very low figure, whereas the farmers themselves complained that they had been rated at full value. The Government, therefore, proposed that where it was held to be impossible to get the rating value, they should take the selling value, with a per centage off, as was done in the case of the Scotch railways. Everything was said to have its price, although they could not let everything from year to year, but there was a selling value, and the Government proposed to say that the rating value should be 4 per cent. under the letting value. He next approached the third of the ratepayers' grievances, namely, the question of the owner and the occupier, and with that question the Government was prepared to deal. They had considered the matter in reference to the evidence taken before the select committee which met last year, and he thought that both justice and public policy required that owners should pay a portion of the rates. At present the system of contracts made between the occupiers and landowners, was that the occupiers engaged to pay all the rates; but the new rates—the increased rates—which had never been foreseen by either party, at present, according to the contracts, fell exclusively on the tenants, and it was impossible to say that the tenants ought not to demand a deduction of rents on that account. What would be the result if, under existing contracts, an income tax were to be imposed? The tenant had bound himself to pay all taxes on his holding, and the House of Commons would find itself hampered in imposing an income-tax unless the landlord were called on to pay it. Many of the great improvements in the metropolis made during the last ten years, as well as others in Liverpool and Manchester, had thus been made almost exclusively at the cost of the occupiers. The Government proposed that this should no longer continue. That was no new proposal. The plan existed in Scotland and in Ireland; and it was only in England that the owners paid no portion of this cost. The people thought that owners ought to pay a portion of such taxation. Though, ultimately, a large portion of the expenditure for these things fell on the owner, he did not pay the taxes himself, and only in the course of years he was made to pay what the occupier had to pay in the first instance. He thought the House would be convinced that it was to the interest of the public in general, and of the good administration of affairs, that the owners should consider themselves

interested in all the great works which were paid for out of the rates. The increase of rates should then in future be divided between the occupier and the landlord. He ventured to say, notwithstanding what he had seen in print, that it would be a great relief to farmers, as well as persons residing in towns, that one-half the rates should be put upon the owners (Hear, hear). With regard to the fourth grievance, that the owners and occupiers of real property paid more than their fair share of local and Imperial taxation, he had shown on previous occasions the great difference there was between one class of occupiers and another. It was doubtful whether real property paid the whole of the rates in towns, and it was continually forgotten that there was a vast amount of real property liable for rates, such as railways, but which was taxed upon the profits and contributed to the rates. That class, which was almost *nil* 30 or 40 years ago, now represented between £14,000,000 and £18,000,000 sterling annually that contributed towards the rates. It was impossible to deal with the great increase in local taxation without going into the difference between house and landed property. He admitted there had been an increase of late years in the rates of from £8,000,000 to £16,000,000, but of the £8,000,000 extra £5,000,000 were due to the improvement rates in towns and in the metropolis, and with which the country had nothing whatever to do. Of the increase of £2,000,000 in the poor rates, £1,600,000 of it fell upon 150 urban unions, whilst only £400,000 were contributed by 500 country unions. The increase during the last seven years, from 1861 to 1868, had been 2 per cent. only in numbers in the country, and 36 per cent. in numbers in the towns, and one-half of the remaining million was for the county police. He had no wish to raise the question between town and country; but in legislating on this subject they must recollect that the ratepayers did not form one class, but to see who were the ratepayers that were burdened most, and that those were not to be relieved alone who were infinitely better off now than they were 20 or 40 years ago. What the Government were most anxious to guard against was that the House should not be misled into relieving persons who, if entitled to relief, were not so much in need of relief as other large classes of the people. The burdens on land were not excessive, and, compared with any other country in Europe, the aggregate imperial and local taxation of the land of this country had been distinctly relieved. The value of land had not fallen, nor had rents on account of the taxation placed on the land, and according to Schedule B, as compared with former profits, the profits of farmers had not decreased. He would recommend hon. members to study their own counties in order to see how the case stood as regarded increased rates. Taking Suffolk, which was an agricultural county, under Schedule A the property was £1,150,000 about fifty years ago, whereas it was now £2,000,000. The amount of poor rates in 1813-15 was £215,000; in 1826-27 it was £290,000, and now it was only £223,000 (Hear, hear). The rate in the pound varied from 4s. 4½d. in the first period to 5s. 1d. in the second period, and now it was only 2s. 8½d. The burden on land had very considerably decreased, the increase only taking place in particular years. While lands represented two-thirds of the entire property of fifty years ago, they now represented only one-third, whereas the houses which formerly represented little less than one-third were now two-thirds. Consequently the houses had taken off a certain amount of the charges previously exacted from lands. In fact, the owners of lands had not the grievances to complain of which they represented. As regarded houses the increase in the rates had been very considerable, and it was a question how far the charges could be effected. Three modes had been proposed—first, by means of a local income tax; second, by a transference of certain portions of local charges to Imperial taxation; and third, by the invention of new taxes. As to the first suggestion, it was impossible to devise a local income tax, and the objections to it were enormous. You could not localize income. The attempt had broken down in Scotland when the assessment was tried on the principle of means and substance. For instance, the Lord Chancellor of England had been taxed in a small parish of Scotland, where he held property, on his income of £10,000 which he had earned in London, where he had also to pay on the same sum; and similar instances of injustice could be multiplied. In the United States it had been found perfectly impossible to tax

personal property, as hon. members might satisfy themselves by consulting the very able report of Mr. Wells, one of the commissioners appointed to inquire into the enormous abuses springing from that system. It was a question how far we should lightly resign the income-tax as a great engine of public finance, which was always ready in times of pressure. As to the proposition that the state should contribute to certain classes of local expenditure, there were also great objections to that. In the first place, you would have to supply new taxes. The Government did not propose to transfer local charges to the Imperial exchequer, but they acknowledged that a case had been made out to give relief to local ratepayers. They proposed to examine Imperial finances and Imperial taxes to see whether there are any that could be transferred to local objects. After consulting with the Chancellor of the Exchequer, who had met him in the most liberal spirit, they had come to the determination that, considering that the increase of rates had fallen mainly upon house property, that kind of property should receive the largest proportion of remission, and the Government were prepared, after a certain date, that the house-tax should be handed over in relief of certain rates.

Mr. W. H. SMITH asked what was the amount of the tax.

Mr. GOSCHEN thought the amount was about £1,200,000. Scotland would be included in the proposal, and there would be a second bill for that purpose. With respect to this part of the scheme, it was intended to take effect in the next financial year, and the precise date would be regulated by an order in Council, unless, through some unforeseen accident, the money should be required. What they proposed to do to secure the representation of the owners was this—that the chairman of the vestry should select a certain number of owners to sit on the board, and that, with the *ex officio* members, the proportion should not exceed one-third of the whole. It was proposed to give the owners votes at all parochial elections, and a system of registry would be provided for. At present the owner had no vote at municipal elections, and if that anomaly were removed, the Government scheme would be improved. He had now alluded to all the matters embraced in the two bills submitted for adoption by the House, and he trusted that the House would consent to the consolidation of the rates which had been thus proposed. He proposed to have one system of deduction, instead of many systems, to have one system of parochial collection instead of many, to have one audit covering the whole country, and to have one civil board of the parish, and to limit the power of the vestry to deliberative functions, and to utilize the power of the parochial board for the elections of the financial boards. The Bill also proposed to extend the provisions of the Sanitary Act so as to deal with infection, the provision of hospitals, and various other matters not sufficiently provided for at present; and it would also give greater coercive power to the central authority to carry out the Sanitary Act, and to combine from the various departments of the Government all the business that related to local taxation, local government, and health into one department (Hear, hear). That was the plan of the Government so far as local government was concerned; and with regard to finance, the Bill proposed to abolish all the exemptions, and to make all hereditaments, visible or invisible, liable to rates; to improve the mode of valuation; to make the owner liable for half the rates as well as the occupier; and and in relief of the ratepayer, to surrender the house-tax to the local authorities (Hear, hear). The right hon. gentleman concluded by moving for leave to bring in the Bill.

Sir M. H. BEACH moved the adjournment of the debate.

Mr. NEWDEGATE complained that the measure dealt out anything but even-handed justice to the people. It was proposed to render all hereditaments liable to rating, and to levy a new property-tax on land, the result of which would be that the agricultural community would be saddled with this new property-tax, while house property, which was so rapidly increasing in value, would receive a direct relief in the surrender from the imperial taxation of the house-tax to the local authorities. He hoped that fact would be fully considered during the Easter recess.

The debate was adjourned.

THE RIGHT OF SHOOTINGS.—The executors of the late Duke of Newcastle have, through their agent, placed in the hands of the tenantry the entire shooting over the estate at Martin, near Bawtry.

SALE OF PART OF MR. ROBERTS' SHORTHORN HERD,

AT LILLINGSTONE DAYRELL, BUCKINGHAM, ON THURSDAY, MARCH 30, 1871.

BY MR. STRAFFORD.

It seems scarcely three years ago since the last Lillingstone sale, when really the drafts of the herd were sold, and the young Duke of Tregunter, a 500-guinea calf from Wetherby, was kept, with a select few of the Barrington, Darlington, Fuchsia, Seraphina, and Wild Eyes tribes, as the nucleus of a new herd. As time, however, increased the "select few," so it deprived Mr. Roberts of his right hand, and Elias Clarke, full of years and respect, was gathered to his fathers during the winter months. Colonel Kingscote, who occupied the chair, alluded very feelingly to his death; and Mr. Roberts, in responding, might well say that all he knew about Shorthorns he learned from this man. The small farm was rather overstocked, so Mr. Roberts reserved half-a-dozen heifers and the bull Caractacus, and sold the rest, numbering twenty-nine cows and heifers and seven bulls. Ill-luck seemed to befall the herd with its bulls. Third Grand Duke died just as his great worth as a sire was appreciated; and we question very much, with all the attraction of fashionable pedigree, whether those now sold could compare with the good lot of thick, heavy-fleshed, coloury heifers by him that were sold in '68. Sixteenth Grand Duke (24068), a purchase at Preston Hall for 510 gs., died suddenly after begetting a few calves, and Duke of Tregunter—the last bull purchased—became hopelessly useless after a very short period of service. Two heifers were by him in the sale, and although their girth might have been better they were very good and immensely large for their age. It seemed a thousand pities so good a bull should be cut off in his prime, as his fine head, good top, and general character were all that could be desired. What the veterinary art and change of air and climate may do remains to be seen; but for fear he might get into doubtful hands, Lord Dunmore very pluckily bought him, after languid competition, from Wetherby at 165 gs. A capital company sat down at the lunch, and the drags round the ring were full of the leading men of the day. With Captain Oliver sat Lord Fitzhardinge, Col. Kingscote, and Mr. Sartoris. Lord Dunmore, Capt. Gunter, and Mr. Beauford watched from another drag; Lord Penrhyn, on foot, bid occasionally, and Lord Southampton drove up later in the afternoon. Mr. Knowles, with Mr. Stone and a young Canadian, occupied the waggon in front of the stand, and beneath the rostrum stood Culshaw (Towneley), Baxter, Richardses (Sir C. Lampson), and Kenny. Mr. Clayden, Mr. Rad, Mr. Brassey, M.P., Mr. Catchpole, Mr. Thornton, Mr. Mumford, and Mr. Arthur Garthorn were also present; and Mr. McIntosh, Capt. Webb, Mr. Bayes, Mr. Sharp, and others supported the auctioneer. Still there were many blank spaces round the ring, and the company was not so numerous as expected. The two first lots made but little money, in the absence of the butcher, for the things were brought out remarkably well, and many were right fat; yet, with credit be it said, every particular, good or bad, was stated. Darlington 9th, a great massive cow, and full of calf, went from 30 to 75 gs., Mr. Knowles and Capt. Webb being Mr. John Thompson's opponents. Two doubtful lots succeeded, and a rather rough-headed Darlington Princess went to Mr. Baxter for 60gs. Lady Barrington, considered by many one of the best lots in the sale, although not so fashionably crossed, was put up by Mr. McIntosh, of Havering Park, at 100 gs., and sold without another bid. A sweet elegant

cow of the Wild Eyes tribe went slowly along, although a white, and finally became Capt. Webb's, at the same price. Lady Seraphina 2nd, apparently wrong, made only 35 gs. Mr. Ashburner, a young breeder from the Holker country, took Grand Princess, rather a hairless Darlington at 45 gs.; and the next lot, Dewdrop, a little thinner than the rest, was one of the cheapest in the sale. The next half dozen lots were not particularly attractive, and Daffodil, which went to Capt. Gunter for 50 gs., appeared in anything but a healthy state. Barmaid a very handsome heifer, probably the best in the sale, but a questionable breeder, made 75 gs., and then came the cracks of the day, the two Duke of Tregunter heifers, both out of Barrington cows. Barringtonia, although not quite so good in her girth, had a better head and more hair, and was certainly the better bred of the two. 200 was bid by Lord Dunmore, and she finally went to Sholebroke at 270 gs. Bridesmaid was very high in condition, and Mr. McIntosh took her at 200. The calves, somewhat leggy but well done, sold well. A dispute arose with the last heifer, and on being put up again at 25 gs., Captain Gunter, Mr. Knowles, and Mr. Stone fought it out until Mr. Stone got her at 47 gs. After Duke of Tregunter was sold the interest of the sale ceased; but a good Wild Eyes bull, who had been shown at Oxford, and had been in use, was put up at 30, and finally made 62 gs. Four Seraphinas, a Barrington and Darlington, a Fuchsia and Caractacus, a young bull, remain "just as a few to look at;" and it was reported round the ring that the late Mr. Clarke's herd, containing many Seraphinas, would be brought to the hammer in the autumn. The following are the prices and averages:

COWS AND HEIFERS.

Seraphina 7th, white, calved Feb. 29, 1856; got by Duke of Sussex (12772), dam (Seraphina 2nd) by Sweet William (7571).—Denchfield, 20 gs.
 Diadem, rich roan, calved Feb. 26, 1859; got by Marmaduke (14897), dam (Darlington 5th) by 4th Duke of Oxford (11387).—J. J. Sharp, 29 gs.
 Darlington 9th, roan, calved July 7th, 1859; got by Marmaduke (14897), dam (Darlington 8th) by 4th Duke of Oxford (11387).—J. Thompson, 75 gs.
 Duchess of Cambridge 2nd, red, calved Feb. 26, 1860; got by 2nd Duke of Cambridge (12743), dam (Fuchsia 2nd) by Weathercock (9815).—T. Barber, 26 gs.
 Wild Eyes 25th, rich roan, calved Jan. 17, 1861; got by Lablache (16358), dam (Wild Fire) by Vocalist (13960).—B. Baxter, 35 gs.
 Princess, rich roan, calved Feb. 28, 1863; got by Royal Butterfly 5th (18756), dam (Diadem) by Marmaduke (14897).—B. Baxter, 60 gs.
 Lady Barrington 8th, roan, calved March 25, 1865; got by the Duke of York (23032), dam (Lady Barrington 7th) by Baron Tarves (17387).—D. McIntosh, 100 gs.
 Wild Duchess, white, calved Aug. 30, 1865; got by 3rd Grand Duke (16182), dam (Wild Eyes 25th) by Lablache (16353).—Capt. Webb, 100 gs.
 Lady Seraphina 2nd, roan, calved Nov. 7, 1865; got by 7th Grand Duke (19877), dam (Seraphina 2nd) by Sweet William (7571).—C. Bayes, 35 gs.
 Grand Princess, red, calved March 26, 1866; got by 7th Grand Duke (19877), dam (Princess) by Royal Butterfly 5th (18756).—W. Ashburner, 45 gs.
 Dewdrop, roan, calved April 11, 1866; got by 3rd Grand Duke (16182), dam (Diadem) by Marmaduke (14897).—D. McIntosh, 55 gs.
 Sultana, roan, calved April 16, 1866; got by 3rd Grand Duke (16182), dam (Seraphina 3rd) by Royal Essex (18767).—Capt. Webb, 70 gs.
 Czarina, rich roan, calved Nov. 8, 1866; got by 3rd Grand Duke (16182), dam (Duchess of Cambridge 2nd) by 2nd Duke of Cambridge (12743).—H. J. Sheldon, 70 gs.
 Peeress, white, calved June 21, 1867; got by 3rd Grand Duke (16182), dam (Princess) by Royal Butterfly 5th (18756).—Freeman, 51 gs.

Cleopatra, red and white, calved Oct. 21, 1867; got by 3rd Grand Duke (16182), dam (Duchess of Cambridge 2nd) by 2nd Duke of Cambridge (12743).—Gretton, 50 gs.
 Songstress, red and white, calved May 8, 1868; got by 16th Grand Duke (24063), dam (Seraphina 3rd) by Royal Essex (18767).—Cock, 66 gs.
 Daffodil, roan, calved May 28, 1868; got by 16th Grand Duke (24063), dam (Diadem) by Marmaduke (14897).—Capt. Gunter, 50 gs.
 Barmaid, roan, calved Aug. 16, 1868; got by 7th Grand Duke (19877), dam (Lady Barrington 7th) by Baron Tarves (17387).—J. A. Mumford, 75 gs.
 Barringtonia, red and little white, calved July 29, 1869; got by Duke of Tregunter (26021), dam (Bertha) by 3rd Grand Duke (16182).—R. E. Oliver, 270 gs.
 Bridesmaid, red, calved Aug. 25, 1869; got by Duke of Tregunter (26021), dam (Lady Barrington 7th) by Baron Tarves (17387).—D. McIntosh, 200 gs.
 Wild Cherry, rich roan, calved May 7, 1870; got by Cherry Grand Duke 2nd (25758), dam (Wild Duchess) by 3rd Grand Duke (16182).—J. J. Stone, 80 gs.
 Serenade, rich roan, calved May 14, 1870; got by Cherry Duke (25752), dam (Seraphina 4th) by Royal Essex (18767).—F. W. Stone, Canada, 37 gs.
 Prioreas, red and white, calved May 18, 1870; got by 7th Grand Duke (19877), dam (Princess) by Royal Butterfly 5th (18756).—J. J. Stone, 45 gs.
 Scarlet, red, calved Aug. 8, 1870; got by Cherry Duke (25752), dam (Sultana) by 3rd Grand Duke (16182).—F. W. Stone, Canada, 41 gs.
 Brigantine, red and white, calved Aug. 13, 1870; by Wild Duke (27808), dam (Lady Barrington 7th) by Baron Tarves (17387).—W. Ashburner, 77 gs.
 Cambria, white, calved Aug. 15, 1870; by Wild Duke (27808), dam (Duchess of Cambridge 4th) by 3rd Grand Duke (16182).—T. Barber, 40 gs.
 Priestess, roan, calved Nov. 9, 1870; by Wild Duke (27808), dam (Grand Princess) by 7th Grand Duke (19877).—B. Baxter, 32 gs.
 Dolly, roan, calved Nov. 21, 1870; by Wild Duke (27808), dam (Dewdrop) by 3rd Grand Duke (16182).—D. Hill, 43 gs.
 Birthday, rich roan, calved Dec. 27, 1870; by Candidate (A), dam (Bertha) by 3rd Grand Duke (16182).—J. J. Stone, 47 gs.

BULLS.

Duke of Tregunter (26021), roan, calved June 29, 1867; by 3rd Duke of Wharfedale (21619), dam (Duchess 93rd) by 4th Duke of Oxford (11387).—Lord Dunmore, 165 gs.
 Wild Duke (27808), roan, calved March 7, 1868; by 16th Grand Duke (24063), dam (Wild Eyes 25th) by Lablache (16353).—C. Sturgeon, 62 gs.
 Sinbad, roan, calved Jan. 4, 1869; by 2nd Duke of Claro (21576), dam (Seraphina 7th) by Duke of Sussex (12772).—E. Paxton, 45 gs.
 Sheriff, red, calved June 8, 1870; by Cherry Duke (25752), dam (Seraphina 3rd) by Royal Essex (18767).—F. W. Stone, Canada, 35 gs.
 Caliph, roan, calved Sept. 10, 1870; by Wild Duke (27808), dam (Cleopatra) by 3rd Grand Duke (16182).—W. Ashburner, 28 gs.
 Casarewitch, red and little white, calved Nov. 6, 1870; by Wild Duke (27808), dam (Czarina) by 3rd Grand Duke (16182).—J. J. Stone, 12 gs.
 Dandy, roan, calved Feb. 17, 1871; by Sinbad (Lot 3), dam Daffodil by 16th Grand Duke (24063).—Gretton 14 gs.

SUMMARY.

29 Cows	£69 13 3	=	£2,020 4 0
7 Bulls	54 3 0	=	379 1 0

36 Average	66 13 0	=	£2,399 5 0
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6 Barrington's averaged	£134 11 6
4 Wild Eyes'	72 14 3
11 Darlington's	47 12 7
8 Seraphina's	45 16 2
6 Fuchias's	39 11 0

General Napier (24023), out of May Lass by May Duke 2nd (18372).—Mr. W. H. Salt, 24 gs.
 Blanche Rose 4th, roan, calved January 27, 1871; got by General Napier (24023), out of Blanche Kale by Knightley Grand Duke (24268).—Lord Fitzhardinge, 36 gs.
 Princess Cleopatra 2nd, red, calved January 23, 1871; got by General Napier (24023), out of Cleopatra 10th by Lord Oxford (20214).—Mr. Patterson, Lancashire, 40 gs.
 Princess Joan, red and little white, calved January 31, 1871; got by General Napier (24023), out of Johanna Southcott by John O'Gaunt (16332).—Mr. J. J. Sharp, 16 gs.

BULLS.

Waterloo Prince, rich roan, calved January 2, 1870; got by General Napier (24023), out of Lady Waterloo 18th by Lord Waterloo (18269).—Mr. G. Bland, Lincolnshire, 150 gs.
 Duke of Athens, red, calved April 15, 1870; got by General Napier (24023), out of Duchess 2nd by Master Rembrandt (16545).—Mr. Grimsdick, 32 gs.
 Prince of Asturias, red, calved June 24, 1870; got by General Napier (24023), out of Princess by General Havelock (17852).—Duke of Buccleuch, 100 gs.
 Duke of Artois, rich roan, calved October 10, 1870; got by General Napier (24023), out of Bright Eyes 5th by Grand Duke 8th (19876).—Marquis of Exeter, 71 gs.
 Duclair, red and little white, calved December 23, 1870; got by General Napier (24023), out of Agnes Beaumont by Duke of Buckingham (14423).—Mr. J. J. Sharp, 10 gs.
 Marquis of York, roan, calved January 26, 1871; got by 7th Duke of York (17754), out of Lady Waterloo 14th by 2nd Lord of Waterloo (22198).—Mr. W. H. Salt, 40 gs.
 Baron York, rich roan, calved February 13, 1871; got by 7th Duke of York (17754), out of Bonquet 2nd by Grand Duke 6th (19876).—Mr. Casswell, 52 gs.
 Baron Loftus, roan, calved March 22, 1871; got by Prince Belvedere, out of Beatrice by Lord Red Moss (22205).—Mr. Benson, 30 gs.

SUMMARY.

	£	s.	d.		£	s.	d.
48 Cows averaged	96	10	8	.....	4,633	13	0
8 Bulls	63	7	0	.....	498	15	0
56	91	13	0	.....	5,139	8	0

SALE OF MR. JOHN WOOD'S SHORT-HORN HERD.

AT STANWICK PARK HOUSE, DARLINGTON, ON THURSDAY, APRIL 20TH, 1871.

By MR. JOHN THORNTON.

The double event of Mr. Wood's sale on the Thursday and of Mr. Neaham's on the Friday drew a large company overnight to the comfortable old inn the King's Head at Darlington, and many had to go elsewhere for quarters. The number of fresh faces one generally meets round these gatherings was particularly observable, and the broad dialect and close companionship of several fine-looking men betokened the far-north Aberdonian. Two or three Americans, and a similar number from Australia, were said to be in the house, and we recognised the faces of some well-known breeders from Northamptonshire, Derbyshire, Norfolk, and Kent. The road to Stanwick runs through Stapleton, where Mr. Robert Thornton has preserved the dry bones of old Comet (155), to which several made a pilgrimage; then through Cleasby (where the Wrights once lived and where Comet's garth is to be seen) to Aldbrough, sacred to the memory of the late Mr. Wetherell, and in Shorthorn lore, to J. Brown's Red Bull (97), whose blood runs in the Duchesses' veins. Stanwick Park House lies only a mile beyond, and off the main road. Although a handsome building, it seems a cold cheerless place, but the steadings are excellent and well built, with large warm boxes, having a yard for the cattle to run in. The cowhouse is roomy and well built, and the animals therein looked well, though more to advantage when in the fields. The lunch

took place in the granary, under the chairmanship of Mr. Thos. C. Booth, who made a very happy speech in proposing Mr. Wood's health, and regretted very much, that a comparatively young man should be giving up a herd that had descended from father to son, and stood as one of the best stocks in the country. The ring which had done duty for the sheep last autumn seemed too small, but it was well filled, and two or three houses round it well accommodated the public. The following is Mr. Thornton's account of the herd given in the preface to the catalogue: It was originally started in the days of Messrs. Colling and Mason by Mr. Wood's father, the breeder of the celebrated Bull St. Albans (2584), (used by Mr. Mason), and cow Nell Gwynne, and whose fine judgment brought the stock to great perfection. The present herd consists only of two families, the Premium tribe going back to J. Brown's red bull (97), the first recorded cross in the fashionable Duchesse family, and the Rosebud tribe tracing to Mr. Jobling's Traveller (655), who was by the sire of Favourite (352), and Colours (152). The bulls used in the earliest days were all first-class animals, such as Layton (366), St. Albans (2584), Sir Dimple (594), Leopold (2199), Young Magog (2247), Noble (4578), and others. Since then the herd has had the use of some of the best bulls of the most fashionable blood of the time. First-class sires from Messrs. Booth's herds at Warlaby and Killyerby have been hired from the year 1853. The sale opened with a large good fore-quartered cow by Valasco, but not having had a calf for a year she made but 30 gs. from Mr. Newby Fraser. The second lot, also a fine cow, went cheap to Mr. J. Bowstead at 52 gs., as her heifer Connie was one of the thickest and best in the sale, and fetched the top price of the day, 200 gs., to Lord Bolton. Coral, with a large frame but low loin, was not quite so much fancied as the thick handsome red twin Clotilde, a prize winner standing second to Lady Fragrant on two occasions, and down calving. Put up at 50 gs., she soon reached 100 gs., and in two more bids Mr. St. John Aekers of Gloucestershire secured her at 110 gs. to join a few others he recently purchased from Mr. Booth of Warlaby. He also took one of the best looking yearlings, Peerless by Red Errant, own brother to the twins. Clotilde, the second twin, an excellent breeder, having newly calved, looked thin, but Mr. Andrew Mitchell, of Alloa, who well knew the sort, held fast on and got her at only 82 gs. Prunella, with her thick long straight back and grand hind-quarters, was much admired, and some thought her better than the best twin. There was keen competition for her between Captain Fryer, Lord Bolton's agent, and Mr. Blackstock, the former getting her amidst the cheers of the company for 160 gs. The next lot, Clorinna, also found many admirers, and finally went to the Rev. T. Stanforth for 150 gs. Clotilde 2nd, having had two calves before she completed her fourth year, and milking heavily also, was not quite so blooming as the rest: after slow bidding, she was finally bought at 100gs. for Mr. W. Dangar, of Australia. Her heifer Cymbal, a thick, good red one, made 93gs. from Mr. Whyte, of Aberdeen, who is taking quite a Booth herd north; and her heifer-calf, only a couple of months old, and of great promise, went to Messrs. Gaitakell for 44gs. The cows, as a lot, were not very high in condition, and some had lost their hair; still they were exceedingly good, and very uniform, with one peculiar type about the head. The younger cattle were considered rather inferior to the older ones.

Lord Plymouth, a particularly neat bull of fine quality but rather small in size, made only 51 gs., to go into Aberdeenshire. Lord Charles, a yearling of great substance and good colour, had been in use and went, after foreign competition, to Sir M. W. Ridley for 71 gs. Out of the thirty-two lots eight were under a year old, and five of these small calves. Two lots go to Australia, and six to Scotland, whilst Yorkshire only retains three of the females and six of the bulls; seven of the lots go to Cumberland, and four to Northumberland. A very large company assembled, and it was striking to observe the competition, which was very brisk from every part of the ring, the very select and old character of the stock, as well as the outright sale, no doubt causing the great competition.

	£	s.	d.		£	s.	d.
19 Cows	99	1	4	.....	1,749	6	0
13 Bull	89	0	3	.....	507	3	0
32 averaging	70	10	3	.....	2,256	9	0

SALE OF MR. DAVID NESHAM'S SHORTHORN HERD,

AT HAUGHTON-LE-SKERNE, DARLINGTON, ON FRIDAY,
APRIL 21st, 1871.

BY MR. JOHN THORNTON.

The larger portion of this herd was of the old Baine blood, which has been celebrated and admired in the neighbourhood for generations. Some of the older breeders thought that the cattle had lost size, though their original type, of colour, symmetry, and countenance, had been maintained. The stock went into Mr. Nesham's possession at the death of Mr. Baine as the farm at Gainford was given up, and Mr. Nesham took it with the Shorthorns at a valuation. These, with those of his own, soon outgrew all the accommodation both at Gainford (where there is but little grass-land) and at his own farm at Haughton-le-Skerne many years ago in the possession of Colonel Trotter, and where the originals of the Sylphs were bred. This overstocking and loss of the hay and turnip crop went much against the condition of the cattle, though they finally came out tolerably well, especially the two-year-old heifers, which were very good. Mr. A. Bethune occupied the chair at the lunch, and the majority of the company who had been at Stanwick the day before were present. The first lot, an old cow fresh-looking though in her fourteenth year, went to Mr. Dent for 38 gs. Mr. Tracy, of Edenbridge, bought the best bred and one of the best-looking cows in Queen Maynard, cheap enough at 54 gs.; her calf, a white one, going for 15 gs. to Mr. T. Robinson, of Burton-on-Trent. Mr. Tracy also took lot 7, Cherry Blanche, a cow of the famous old Cherry blood, for 48 gs., somewhat low in condition, but an abundant milker. Fatiko, a red three-year-old heifer of great substance and evenness of flesh, made the top price of the day. Mr. Blackstock and Mr. Osborne of Australia opposed Messrs. Hampton and Van Meter, two breeders from Kentucky, who finally secured her at 140 gs. Two or three other good young cows were also bought by them. Rachel (of the Baine blood) went to Mr. Blackstock for 71 gs., and Mr. Osborne purchased Fatima, a two-year-old in-calf heifer of a fine colour, and very symmetrical, for 55 gs. Alexander, a two-year-old bull, full brother to the heifer Fatiko, also goes abroad for 47 gs.; and Romulus, a roan yearling of extraordinary size, made 68 gs., from Mr. Greenwell of Hertfordshire. Some extra lots of Mr. Jeffrey Balmer's and Mr. Botcherby's also sold well, Familiar Hopewell going for 110 guineas to Mr. Blackstock, who also bought Mr. Balmer's Princess Royal 7th, a prize heifer, for 60 gs. Royal Buckingham, nine years old, and rather a plain coloured bull, made only 87 gs., from Mr. Grundy.

49 cows ...	239 11 8	.....	£1,938	6 0
14 bulls ...	97 6 0	.....	383	4 0
63 Averaged	36 16 8	.....	£3,320	10 0

PEDIGREE STOCK SALES IN 1871.

MAY 1.—At Alwalton, Huntingdon, Stock, the property of the Hon. O. W. Fitzwilliam. By Mr. W. Mann, Marholm.
MAY 2.—At Wicken, Stony Stratford, Shorthorns from Lord Peckham's herd. By Mr. H. Stratford, Ruston Square, London.
MAY 3.—At Havering, Romford, Shorthorns from Mr. McIntosh's herd. By Mr. H. Stratford.
MAY 4.—At Boynton Hall, Okehampton, Mr. J. Christie's Shorthorn herd. By Mr. J. Thornton.
MAY 8.—At Packington Hall, Coventry, the late Lord Aylesford's Shorthorn herd. By Mr. H. Stratford.
MAY 10.—At Northill, Biggleswade, Mr. Burton's Shorthorn herd. By Mr. H. Stratford.
MAY 11.—At Orammore, Market Deeping, Mr. R. Seaton's Shorthorn herd. By Mr. J. Thornton.
MAY 17.—At Sproatley Rise, Hull, Shorthorns from Mr. Barber's herd. By Mr. H. Stratford.
MAY 18.—At Merton, Thetford, the late Lord Walsingham's Shorthorn herd. By Mr. J. Thornton.
MAY 26.—At Dall, Islay, N. B., Mr. W. Webster's West Highland Herd. By Shirlaw and Son, Dall.
MAY 31.—At Palmer's Green, Southgate, Mr. Detham's Shorthorn herd. By Mr. J. Thornton.

JUNE 20.—At Merton, Thetford, the late Lord Walsingham's Southdown flock. By Mr. J. Thornton.
JULY 26.—At Biddenham, Bedford, Mr. Charles Howard's Oxford Down Rams. By Mr. H. Stratford.
JULY —At Ouddeken, Mr. Chillingworth's Oxford Down Flock. By Franklin and Gale.
AUGUST 1.—At Farnley Hall, Oley, the late Mr. Fawkes' Shorthorn herd. By Mr. H. Stratford.
AUGUST 2.—At Upper Winchendon, Bucks, Mr. Treadwell's Oxford Down Rams. By Mr. J. A. Mumford, Chilton, Thame.
AUGUST 2.—At Bullbridge, Mr. James Rawlinson's Hampshire Down Rams. By Ewer and Winstanley, Salisbury.
AUGUST 2.—At Salisbury, Mr. E. Dibben's Hampshire Down Rams. By Ewer and Winstanley.
SEPTEMBER 7.—At Holker, Lancaster, Shorthorns from the Duke of Devonshire's herd. By Mr. H. Stratford.
SEPTEMBER 8.—At Beaumont Grange, Lancaster, Shorthorns from Mr. W. W. Slye's herd. By Mr. H. Stratford.

THE FRENCH PEASANT FARMERS' SEED FUND.

A meeting of the Executive Committee on Thursday, April 20, was attended by Sir Vincent Eyre, Colonel Berrington, and Monsieur Vallant, who have rendered great service in either personally superintending or arranging for the reception and distribution of the corn sent out. Lord Vernon, the Chairman, tendered the best thanks of the Committee and of the subscribers for the great assistance rendered by these gentlemen, without whose aid and advice his Lordship felt assured that it would have been impossible to carry out their object so thoroughly as he believed this had now been done. Sir Vincent Eyre in responding said he was convinced from all he had seen in France that the exertions of this Society would tend more than anything else to establish a good feeling between the people of the two countries for generations to come. He believed that the administration of the Fund had been conducted in the most economical manner, and that some forty-four thousand small farmers had by this means been enabled to look forward to the fruits of another harvest, of which otherwise they could have had no hopes.

It was determined to send out in small parcels for distribution through the four districts where the fund is employed, in all about £1,500, of onions, carrots, haricot beans, and white turnips; and instructions have been given for the purchase of seed maize in such quarters where this is still required.

It was announced that M. Drouyn de Lhuys had requested the Committee to undertake the expenditure of about £1,500 which had been subscribed in Sweden and forwarded to his Excellency.

It was determined not to purchase any more wheat, and as the season is advancing the Committee is naturally desirous that all subscriptions still outstanding should be paid in with the least possible delay.

THE BATH AND WEST OF ENGLAND SOCIETY'S MEETING IN 1872. — Under the head of Dorchester News, *The Sherborne Journal* says: "It is now definitely settled that the Show of the Bath and West of England Society will be held close to the locality where it was held on the former occasion. A deputation from the Society, consisting of Mr. Jonathan Gray, Mr. Knowles, Mr. Bush, Rev. T. Roseawen, Rev. S. Best, Mr. Speckman, Mr. Henry Fookes, Mr. Jones, and Mr. Godwin, came here on Thursday, and visited the farms of Mr. H. Mayo and Mr. Harding, of Stinsford. They chose a piece of pasture-ground at Stinsford, just outside the turnpike-gate on the Blandford-road, 37 acres in extent, and the shape which the Society favours—an irregular triangle. The field is well drained, and the river being close at hand, there will be an abundant supply of water handy. The toll-gate is to be made free by the local committee during the week. A trial-ground near the Show-field will be provided. After signing the formal documents at the Council Chamber, the Corporation and deputation adjourned to the residence of the Mayor, who entertained them.

THE CENTRAL CHAMBER OF AGRICULTURE.

A Special Council Meeting was held on Thursday, April 30, for the purpose of receiving the Report of the Local Taxation Committee on the two Bills of the Government. The chair was taken by the President, Sir Massey Lopes, M.P.

After the election of the Earl of Harrowby and Earl Howe,

The CHAIRMAN read the Report, which was as follows:

SUGGESTIONS BY THE LOCAL TAXATION COMMITTEE for the consideration of the Council of the Central Chamber of Agriculture, with a view to the course to be pursued with regard to Mr. Goschen's Bills on "Local Rating and Government," and "Local Taxation," April 20th, 1871.

Delay in Production of the Bills.—Your Committee having considered the two bills introduced by Mr. Goschen, entitled, 1. The Rating and Local Government Act, 1871, 2. The Rating and House Tax Act, 1871, would call attention to the fact that these bills were promised to be laid on the table of the House on the 4th inst., in order that members might have the opportunity of considering them during the Easter Vacation. They were, however, not received before the 14th inst., and your Committee have, therefore, had a very short time to consider their provisions and the important changes proposed. Your Committee regret that they are unable to perceive from the tenor of these bills that the Government are prepared to admit the grievance to which Chambers of Agriculture have so frequently called attention. As an attempt, however, to reduce to some sort of order the chaos of Local Taxation and Administration, your Committee have deemed it desirable to examine the details of the measure.

Parts Approved of.—Your Committee fully approve of the proposed consolidation of the rates, as tending to greater simplicity, also of the proposed mode of levying by a demand-note which is to specify the rate in the pound for the different items. They also view with satisfaction the suggested mode of collection and audit. Your Committee would remark that these recommendations were embodied in the Report of the Local Taxation Committee of last session, and were unanimously approved of by them. Your Committee beg to signify their approval of the general principle of parochial and county boards, but they consider that the mode of their constitution and the powers proposed to be conferred upon them should be carefully considered. They also approve such alterations in the parochial officers as may be necessary to carry out these proposals. They would, however, call attention to the novel mode of election by ballot, as well as to the provision by which the small ratepayers of 5s. a year will have an equal power with the large occupier whose rates may amount to £50 a year and upwards. Your Committee would also point out the hardship inflicted on the freeholder in clause 48, sec. 6 of the Rating and Local Government Bill, which provides, "That where the same person is occupier and owner of the same hereditament, he shall be entitled to vote as occupier only in respect of such hereditament." This appears a hardship to your Committee; because, if the owner chooses to let his hereditament, he would retain his vote as owner, whilst his tenant or occupier would also have the right to vote in respect of his occupancy.

Rating of Property not at present Rated.—Your Committee consider it a step in the right direction that those kinds of real property not at present rated should contribute. They have always advocated the principle that there should be no exemptions; but here they must remark that, if the law is to be altered, it should not be altered with reference to real property only, which is already unfairly overburdened. Income from property of every kind ought to be made to contribute. If a portion of section 1 of the Act of Elizabeth is to be repealed, the rating area ought to be extended impartially, or an efficient substitute in lieu of these exceptional national burdens should be provided. Mr. Goschen's proposal simply aggravates the present unjust impositions on one kind of property for imperial objects, and directly abrogates the cardinal principle of the Act of Elizabeth by repealing the words which fixed the charge for relief of the poor according to "ability." The portions of the Act of Elizabeth which Mr. Goschen proposes to repeal are as follows: The following words in section 1, "by taxation of every inhabitant, person, vicar, and other, and of every occupier of lands, houses, tithes impropriate, or appropriations of tithes, coal mines, or saleable underwoods in the said parish," in "such competent sum and sums of money as they shall think fit," and the words "according to the ability of the same parish." Returns No. 437 and 470.—Mr. Goschen's voluminous returns (Nos. 437 and 470) have quite evaded the question at issue—viz., the entire exemption of property other than real from contribution to rates for national purposes. These returns are manifestly the key to the

bills, which, instead of holding out any prospect of alleviation, evidently contemplate and threaten the imposition of future increased burdens upon ratepayers. *Foreign Statistics.*—The return (No. 470) above alluded to contains statistics of the amount of Imperial and Local Taxation borne by other countries. Your Committee fail to see that they are of any value as affording accurate means of comparison with our own. They leave us in ignorance of the proportion agricultural wealth and real property bear to other descriptions of property in those countries, a point on which trustworthy statistics have not yet been obtained even by our own Government with respect to ourselves. Your Committee would, however, direct attention to the fact, that in none of the countries from which these returns are collected is anything like so large a proportion of the local charges raised directly from real property as with us. Thus, for example, in France we find that only 27.60 per cent. of the local taxation is borne directly by real property, while 72.40 per cent. is raised indirectly mainly on articles of general consumption; these proportions being in England nearly exactly reversed, 78.81 per cent. being directly levied on realty, and 21.19 only in an indirect manner. These figures are Mr. Goschen's own in Return No. 470. *Local Taxation in Foreign Countries.*—Mr. Goschen himself states at page 39 of his report (Return No. 470), that when he came to inquire into the local taxation statistics of Prussia and Hungary that they are "very incomplete," and that the accounts from Russia on this subject are "not altogether trustworthy." And again at page 40 he states "that the comparisons which have been made between the burdens on real property in England and in foreign countries are too general to be conclusive or of practical application." Your committee quite concur in this statement. *Relative Increase of Wealth in England and Wales.*—In no country is there so much personal wealth as in this at the present time. The increase in incomes arising from commerce, manufactures, and trades far exceeds the increase in incomes derived from real property. Mr. Purdy has calculated that during the fifty years between 1815 and 1865, whilst land rental increased 36 per cent., the profits arising from trades and professions increased 213 per cent. Your committee cannot fail to note that, while much has been made in argument of the increased value of land at the present day, the large amount of personal property merged in real property, and by which indeed its value has been mainly augmented, is altogether lost sight of. They would observe that the objectionable principle, peculiar to England and Wales (from which Scotland and Ireland are exempt), of rating industrial capital immediately it is invested in the improved cultivation of the land or in the improvement of houses, remains untouched in the bill, and leaves such investors a just cause of complaint in the distinction remaining between capital so employed and that employed in other industries. Assessments have, moreover, increased on real property vastly during the last ten years, chiefly through the operation of the Parochial Assessment Bill, though the real or intrinsic value of the property has not proportionately increased. In the time of Elizabeth all wealth was derived from real property. It was therefore only just, in those days, that land and houses should bear all the taxation. In Hungary and other countries which Mr. Goschen has instanced the condition of property is much the same as it was in England in the time of Elizabeth. No fair comparison can therefore be made as to the various systems of taxation in force at the present time. *Statistics.*—In Return 470, appendix part III., page 119, Mr. Goschen professes to give an analysis of the imperial taxation of England and Wales for the year 1868-1869.

I. Imperial taxes falling on real property—

Three-fourths of stamps on deeds, &c.	£21,033,500
Succession duty	571,600
Two-thirds of fire insurance duty	641,286
One-tenth of probate duty	143,543
Income tax on real property (Schedule A) at 5d. in the pound	2,817,000
Land tax (unredeemed)	1,023,000
House tax	1,022,000
	27,050,337
Annual land tax redeemed (omitted)	960,673

£28,011,010

Your committee would remark here that an amount of land tax of £960,673 has been redeemed. So that the actual land tax costs in present payments and capital sunk £21,033,573 annually. Mr. Goschen has made no allowance for redeemed land tax.

II. Imperial taxes not falling upon real property—

Customs	£16,955,199
Excise	13,136,188
Stamps (less stamps on deeds, succession, fire insurances, and probate duty, falling upon real property)	5,425,851
Assessed taxes (less land and house tax falling on real property)	1,138,127
Income tax (less amount falling on real property)	4,983,829
Net receipts from post-office, deducting expenditure	967,470

Total imperial taxation not on real property... £43,476,664

Making a total imperial taxation for England and Wales of £49,527,001. But Mr. Goschen in Table II. has grouped together customs, excise, assessed taxes, and receipts from post-office, none of which are taxes upon property at all. This is therefore a most unjust and unfair comparison, and your committee contend that if his conclusions are based on these data they are most fallacious. Customs and excise being indirect taxes paid by the whole community, owners of both real and personal property, who also pay assessed taxes, and from whom are gathered the post-office receipts, all these taxes are levied upon persons rather than property. The total imperial taxation of England and Wales for 1898-99 ought to be made up as follows, and may be divided into three parts:

I. Imperial taxes falling on real property	£7,060,337
(N.B. The land tax redeemed, £960,673, is not taken credit for here, otherwise the amount would be £9,001,010).	
II. Taxes upon property other than real	£10,286,690
III. Taxes not upon property :	
Customs	£16,955,199
Excise	13,136,188
Assessed Taxes	1,138,127
Post-office receipts	967,470
	£33,197,984

Total imperial taxation ... £49,527,001

the same total as Mr. Goschen's. This being the total imperial taxation of England and Wales, it follows that according to Mr. Goschen's figures: I. Real property pays 14.33 per cent.; II. Other property pays 20.79 per cent.; III. Taxes not upon property pays 64.98 per cent. of the total Imperial Taxation, but it also follows that if real property were credited with the redeemed land tax, the percentage paid by it would be far greater. It has never been disguised by your Committee that real property pays rather less than other descriptions of property towards the Imperial Taxation of the country. With regard to the Local Taxation, your Committee find at page 130 of the same return, that Mr. Goschen states the case as follows:

Local Taxation of England and Wales, 1898-9.

Local taxation on real property	£16,233,000
" " not on real property (viz., tolls, dues, &c.)	4,363,000

Total local taxation ... £20,596,000

From this we see that real property pays 78.81 per cent. Tolls, dues, &c., which are not taxes on property, pay 21.19 per cent. of the total Local Taxation of England and Wales. Your Committee are now enabled to arrive at the aggregate total of Imperial and Local Taxation as follows:

I. Taxes on real property—	
1. Imperial	£7,060,337
2. Local	16,233,000
	£23,273,337
II. Taxes on other property—	
1. Imperial	£10,286,690
2. Local	nil.
	£10,286,690
III. Taxes not on property (viz., indirect taxation, assessed taxes, P.O. receipts, tolls, dues, &c.)—	
1. Imperial	£33,197,984
2. Local	4,363,000
	£37,560,984

Total imperial and local taxation of England and Wales ... £70,113,001

In this Table, as will be seen, no credit is given to real property for redeemed land tax. It appears then, that— I. Real property pays 33.19 per cent.; II. Other property pays 14.68 per cent.; III. Taxes not on property pay 52.13 per cent. of the total Imperial and Local Taxation of England and Wales, taken in the aggregate. Your Committee would beg to draw attention to these results, which they have deduced from Mr. Goschen's own figures. The Committee think them most important, and believe them to be incontrovertible, and they are of opinion that they have clearly made out that real property (consisting of lands and houses) labours under

heavy inequalities and grievances; that, in fact, it pays considerably more than double the amount of the aggregate taxation that is contributed towards the revenue by other descriptions of property. Your Committee proceed to a further analysis of the total Local Taxation levied on real property, dividing the items into those which are for national purposes, and those which are for local purposes. These items will be found at page 3 of Mr. Goschen's Return, No. 470, 1898-99.

I. National purposes:

1. Poor relief proper	£7,500,000
2. Expenses incurred under Vaccination Acts, Registration Acts, Assessment Acts, Collector's salaries	300,000
3. Highway Rate	1,500,000
4. County, Hundred, Police, and Borough Rate	3,000,000
	£12,300,000

II. Local purposes:

1. Lighting and Watching Rate	£100,000
2. Improvement Commissioners	400,000
3. General District Rates	1,700,000
4. General and Lighting Rates in the Metropolis	1,000,000
5. Rates levied by Commissioners of Sewers (including Embankment Rates) Metropolitan, £500,000 Extra-Metropolitan, £200,000	700,000
6. Other rates (Burial Boards, Fire Brigades, &c.)	400,000
	£4,300,000

Total ... £16,600,000

By the aid of the above analysis your Committee are enabled to point out the delusive statistics contained in Return No. 437. It will be remembered that in the last report of your Committee they stated their impressions of the unmistakable bias and animus of this Return. An Amended Return (No. 141), lately issued, proves that they were right in their opinion. The first Return (No. 437) purported to show the general average of rates on rural districts, as compared with the general average in town unions, and gave the rate in the pound as follows:—Rural Unions 2s. 9½d., Town Unions 4s., and Average Rate 2s. 4d. But in estimating the rate in the pound for town unions, those rates which are for purely local purposes were taken credit for, purposes which, as will be seen in another part of this paper, are provided by rural districts from private resources. In the amended Return (No. 141) which was obtained on the application of your chairman, these purely local rates are eliminated, and it appears that the rate in the pound for national purposes is: In Rural Unions 2s. 0½d., in Town Unions 2s. 6d., and Average Rate 2s. 3d.; whilst for the relief of the poor it is: In Rural Unions 1s. 5½d., in Town Unions 1s. 7½d., and Average Rate 1s. 6½d., and thus your Committee are enabled to prove that the rate in town unions, for national purposes (viz., for poor and county rates) exceeds that in rural unions by 5½d. only, whilst for the relief of the poor the excess is but 1½d. From this it appears that Mr. Goschen's statement, p. 3 (437), "That the rate in the town unions exceeds that in rural unions by 1s. 2½d. in the pound, or 44 per cent.," is most inaccurate. *Town and Country, Owner and Occupier.*—Having directed attention to the delusive statistics upon which the Bills are founded, your Committee beg to draw attention to Mr. Goschen's attempt to set at variance different classes of the community. (1) He tries to set the inhabitants of towns against the inhabitants of rural districts. (2) He draws an invidious distinction between owners and occupiers. Now your Committee maintain that this is emphatically a ratepayers' question. It is not a question between town and country, between owner and occupier. It is whether one description of property shall continue exclusively to contribute to the support of objects which are confessedly of national obligation; and this Mr. Goschen ignores altogether. 1. *Town and Country.*—First, as regards town and rural districts, the Local Taxation Committee have never failed to impress upon the public mind on every possible occasion that the question was quite as interesting, if anything, more interesting to owners and occupiers of house property, than to owners and occupiers of land; but the proposal of Mr. Goschen to hand over the amount of the house duty to relieve the local rates is very illusory and can give no real satisfaction. The Chancellor of the Exchequer will, in all probability, have to make up the amount by increased taxation, for the sum can ill be spared from the national exchequer, and thus those of the ratepayers who do not get any relief from the transfer will have increased taxation heaped upon them, and those who do get relief, as far as rates are concerned, will have to make up the amount by increased imperial taxation. Mr. Goschen allows that local taxes have increased from £8,000,000 to £16,000,000 between 1843 and 1898, and he proceeds to analyse the increase as follows:—£3,000,000 due to poor rate, £5,000,000 to town improvement rates, and

£1,000,000 to police and miscellaneous purposes. And he attempts to draw an invidious distinction between town and rural districts. He states that the greater part of the increase, at least £6,500,000, has fallen upon urban and not upon rural districts, from which we are intended to infer that house property has suffered, whilst land is little, if anything, worse off than formerly; but Mr. Goschen himself allows that £6,000,000 of the increase are due to town improvement rates, representing municipal expenditure for lighting and paving, sanitary improvements, and metropolitan rates, public works, &c.; and he further states that a great portion of the outlay on these purposes must be regarded as "remunerative" in many senses, and as being not so much "a burden as an investment," in which remark the Committee quite agree with him; but he altogether leaves out of the account that, in rural districts, expenditure of the like kind has been defrayed from private resources. The outlay being considered remunerative has caused private enterprise to do in the country, without the assistance of a rate, what has in towns been carried out by such means. The Committee cannot accept Mr. Goschen's statement, therefore, as a fair comparison of the relative increase of burdens between town and country.

3. *Owner and Occupier.*—As regards the proposed division of payment of rates between owner and occupier, your committee would observe that no relief whatever will be obtained by this division, except in the case of new rates, and your committee object strongly to the principle of interference with the right of private contract. It might be prejudicial to occupiers that existing arrangements should be disturbed; for, in making fresh arrangements, revaluations would be necessary, which might not be to the advantage of the occupier. The owner, whether of land or houses, may raise his rent by the amount to which he is charged to the rates, and will probably raise it sufficiently to leave a margin for contingencies. Should the proposal become law it would tend to introduce a system of rack-rental throughout the kingdom. The occupier would, therefore, not be benefited. Mr. Goschen has based his recommendation for the division of payment between owners and occupiers upon the improvement in administration, which he asserts, would be consequent upon the introduction of owners to a share in the administration. He believes that owners would thus be induced to take a greater interest in local expenditure. Your committee cannot see the force of Mr. Goschen's arguments. Boards of guardians, as at present constituted, are for the most part employers of labour, and so have a direct interest in keeping down the rates. This interest will not be so direct when owners have to pay half the rate. For the same reason the occupier is more conversant with the wants and requirements of those who look to the rates as a resource in cases of destitution and distress.

Titheowners and Small Freeholders.—The titheowners of the country, who are, for the most part, large ratepayers, also the yeomen and small freeholders occupying their own land, would reap no benefit from these proposed changes.

Sanitary Regulations.—The sanitary regulations in the bill will also aggravate the present injustice, and tend to a great increase of local expenditure. In the opinion of your Committee these regulations ought to form a separate bill, and be discussed upon their own merits. The powers to be granted to the Local Government Board with regard to the sanitary regulations appear to your Committee to be very arbitrary. Very little real control will be left to the local authorities, who will not be able to appoint their own paid officers or award salaries without the approval of the central authority (the Local Government Board). The central authority may also displace these officers, whilst the local authority cannot do so without the consent of the central. The Local Government Board may also from time to time alter the rural sanitary districts. The powers of the sanitary authorities will be enormous, and the expenses entailed will be very considerable. See clauses 24 and 26. 24. Where the Local Government Act, 1888, is in force throughout the jurisdiction of a sanitary authority, there shall attach to and be exercisable by that authority: (1.) All powers, duties, and exemption attaching to or exercisable by a local board; also, (2.) All powers, duties, and exemptions attaching to or exercisable by any council, commissioners, or other local authority, under the Common Lodging Houses Acts, the Diseases Prevention Acts, the Baths and Wash-houses Acts, the Workshop Regulation Act, the Labouring Classes Lodging Houses Acts, the Artisans and Labourers' Dwelling Act, and the Bakehouse Regulation Act, or any of such Acts. Where the Local Government Act, 1888, is not in force throughout the jurisdiction of a sanitary authority, there shall be attached to and be exercisable by the sanitary authority of that district: (1.) All powers, duties, and exemptions attaching to or exercisable by the sewer authority or nuisance authority under the Sewage Utilisation Acts, the Nuisances Removal Acts, and the Bakehouse Regulation Act, or any of such Acts; also (2.) All powers, duties, and exemptions attaching to or exercisable by the local authority under the Common Lodging Houses Acts, the Diseases Prevention Acts, the

Baths and Wash-houses Acts, the Workshop Regulation Act, the Labouring Classes' Lodging Houses Acts, and the Artisans and Labourers' Dwellings Act, or any such Acts of the property transferred. 26. Every sanitary authority shall, by contracting, purchasing, or hiring, or contracting for the use of the places and things hereinafter mentioned, provide the district with proper places furnished with proper apparatus for distribution of clothes and other articles, with a proper carriage for the conveyance of infected persons, or of persons suspected of being infected, and with hospitals to which persons incapable of taking proper precautions against infection and affected, or suspected of being affected, with infectious diseases, may be removed. *Centralisation.*—In conclusion, your Committee would point out that in the event of these bills passing, the power of the new central authority, to be called the Local Government Board, will be enormously increased, without any compensatory imperial contributions. Centralisation is one main point aimed at in these bills, and the local control, small as it now is, will be diminished more than ever. Your committee are, therefore, of opinion that the bills, as introduced by Mr. Goschen, are most unsatisfactory. They in no way meet the real grievance complained of, viz., the continued exemption of property other than rate from contribution to rates levied for national purposes.—*MASSIEY LORRA, Chairman of Local Taxation Committee.*

Col. TOMLIN, M.P., in moving that this Report be adopted, printed, and circulated, remarked that the tactics of their opponents had always been to divide those who were opposed to them (Hear, hear). First of all, they were divided, or were supposed to be divided, into Conservatives and Liberals; next into landlords and tenants; then into the inhabitants of urban and rural districts, as if in the part of the country in which he resided, for example—North Lincolnshire—there were not far more populous and important towns than half-a-dozen little boroughs like Richmond, which were called urban constituencies as distinguished from such important towns as he had just referred to. In point of fact, there was no distinction now between county and borough members; and he would recommend that as these had been the tactics of their opponents, the Chambers of Agriculture should act in a similar manner. If by agitation they could succeed in getting a recognition of the principle that public salaries, including that of Mr. Goschen (laughter), should be rated to all rates, they would produce most striking effects, and obtain the noisy support of certain gentlemen, who would take a very different view of the exemption of a large amount of wealth from the rates when they found that they were on the side of the minority of wealth-possessors who had to contribute to the rates. That would be carrying out the principle of dividing interests by means which this exemption of personal wealth from rating had been continued. Even the Bills of the Government were based on that principle of a division of interests; for Scotland, Ireland, and the Metropolitan districts were not to be subjected to them, and yet their representatives had the right to vote upon them. Well, that was not self-government. Let them, the question be raised and agitated that the salaries of all public officials should be assessed to all rates, and the Chamber would enlist on its side an increased amount of support (Hear, hear).

Mr. T. CALDECOTT seconded the motion.

Mr. T. ARKELL concurred in the opinion that Mr. Goschen had tried to set town against country by offering the home-tax for the relief of towns. If he had also offered the amount of the land tax for the benefit of agriculturists there might have been something like even-handed justice. He (Mr. Arkell) would have all incomes above £100 a year taxed for local purposes. The reading of Mr. Goschen's speech kindled his wrath immensely. He afterwards examined the Bill for the purpose of seeing whether or not it could be amended, and he thought that might be done by imposing such an income-tax as he had just mentioned.

Professor BUND confessed that on reading Mr. Goschen's speech he was a little startled, not being prepared for such enormous figures, but after reading it he felt that it was altogether deleterious. Of the £30,000,000 of local taxation mentioned by Mr. Goschen one-fifth was spent in the Metropolis. In such a statement London should have been omitted, but that would not have answered the purpose in view (Hear, hear). The handing over of the house tax was no doubt meant as a sop to the Metropolis. That was the only reason that he could conceive for such a proposal. The official report showed one remarkable omission. There was a good deal about Germany and other continental countries, but he should have preferred something about America, where the character

and habits of the people resembled our own. If such views as Mr. Goschen's were fully carried out he (Professor Bund) would rather possess property even in Paris than in England.

Mr. HENKAGE wished to thank the Council for electing him to fill the office of vice-president of the Council now and that of president for the ensuing year; an office for which he felt himself to be unsuited, because he had not then the honour of possessing a seat in the House of Commons. At first he was inclined to object to that part of the report which expressed approval of a consolidated rate, but his feeling of opposition was removed by the fact that in the latter part of the report it was suggested that all the provisions relating to sanitary questions should be struck out of the Bill. He did not grudge the towns any relief which they might obtain from the Government measure, but he did not wish to see them relieved at the expense of agriculture (Hear, hear). He felt certain that the city of London was at the bottom of that part of the Bill (Hear, hear), and he should be glad if some hon. member would move for a return of the amount of relief which the Bill would give to Mr. Goschen's constituents (Hear, hear). Having recently attended four meetings of chambers of agriculture in Lincolnshire, he must say that nothing could have given such an impetus to those chambers than the Government Bills. They had done more than anything else could have done within the same period to open the eyes and rouse the sluggish feelings of farmers in that part of England. At the meetings to which he had alluded, the farmers present were unanimous in declaring that they would have nothing to do with the Bill, that they did not want relief at the expense of their landlords, or to have fresh values going over their farms (Hear, hear).

Col. PASER, M.P., expressed his satisfaction with the report which had just been presented. It would be a great advantage to the representatives of agricultural constituencies in Parliament to know what were the views of that Chamber as to the proper course of action. One object contemplated in the report appeared to be that a practice which had long prevailed in Scotland and in Ireland, as regarded agricultural improvements, should be extended to England, that was to say, that land should not be assessed at the increased value arising from such improvements during the currency of a lease (Hear, hear).

The CHAIRMAN intimated that that was the case, adding that he must remind speakers that they were not then discussing the Bill, but merely the report of the Local Taxation Committee.

Mr. G. ANDREWS agreed with Mr. Henkage that the Committee was almost bound to thank Mr. Goschen for his measure, as nothing could tend more to show agriculturists what unlimited charges they were likely to be subjected to if the exemptions of personal property from poor-rate assessment were permitted to continue. In the last 30 years local burdens had increased more than 100 per cent., and perhaps in the next 30 they would have increased 150 per cent.

Mr. HODGKINSON maintained that either the assessment of land must be reduced to one-fifth of the rental, or personal property as well as real property must be subjected to income tax for the purposes of local taxation. Mr. Goschen's figures would, he believed, prove most useful for their purposes.

Major ALLEN, M.P., was glad that the Chamber was not going to appeal to the country as opposed to the towns, believing, as he did, that many large towns would assist it in its efforts to secure a better system.

Mr. TURNER (Peterborough) pointed out the delusiveness of the Government proposal as regarded the division of rates between owners and occupiers. Existing contracts, he observed, were not to be affected, and, in the case of new lettings, the landlord would take care not to lose by the change.

The motion was then adopted.

The CHAIRMAN said he felt sure it would be quite understood that the Local Taxation Committee, in preparing that report, had no wish to dictate to the local chambers (Hear, hear). In discharging a duty involving great responsibility, their object was simply to point out the most salient objections to the two Government bills, and to assist the provincial chambers without in any way attempting to dictate to them (Hear, hear).

Mr. BINDELL, moved: "That in accepting the report as read by our chairman, the thanks of this chamber be accorded to the Local Taxation Committee, from whom that report emanates; and that the provincial chambers of agriculture be

requested to consider the matter and impress upon their parliamentary representatives the points therein mentioned, when the bill is again brought before the House."

Mr. LONG seconded the motion.

After a few remarks from Mr. GENGEE ANDREWS,

Professor BUND said two resolutions relating to that subject having been placed on the notice paper of the House of Commons, he wished to observe that in that case united action was most important, and to deprecate anything which might tend to create an impression of weakness in the chambers of agriculture (Hear, hear). He did not know whether or not those resolutions were put forward with the assent of the Local Taxation Committee; but supposing that they were not he would suggest that any action that might be taken with regard to the Government bills should not be taken on any mere abstract resolutions emanating from an individual member of Parliament, but should be the united action of that central chamber, and be conducted in such a manner as to secure the utmost possible support, and not show any weakness there.

Mr. CORRANCE, M.P., wished to add a word of warning to the Council. Great danger might be incurred in connection with the discussion of that question not only in that Chamber but in the House of Commons, and he hoped that every one would abstain from doing anything which might throw difficulty in the way of future Parliamentary proceedings. Those proceedings must be matter for grave consideration, and he thought the feeling expressed by Professor Bund on that subject was fully justified. He presumed that the Professor alluded especially to the resolutions placed on the paper by his friend Sir George Jenkinson (Hear, hear). He was convinced that Sir George did what was referred to with the best intentions (Hear, hear); but he was also convinced that he would best show his discretion by meeting the wishes of the Chamber and leaving the matter to be decided by the advice of those by whom he was surrounded in that room (Hear, hear).

Sir GEORGE JENKINSON, M.P., wished to say a few words on that subject. When he came there that morning he was totally unprepared for this—he did not know whether he might call it an attack. (Cries of "No, no.") Well, notice of it ought to have been given. It was entirely foreign to the proposal then before the Council, which was that a vote of thanks should be given to the Local Taxation Committee for the report which had been read. The two last speeches were not directed to that point at all. In the exercise of what he considered to be his duty as a member of Parliament, he placed resolutions on the notice paper of the House of Commons; and he thought that for members of that Council or that Chamber, or deputed members of Chambers, or any one, to make remarks of that sort with regard to a notice given by him in Parliament, was certainly, to say the least, unusual and out of order, especially as there had been no previous communication with himself on the subject. Now, in order to show that he had acted in strict conformity with what had previously taken place in that Chamber, he would read the original motion on which his notice in Parliament was based. That motion was to have been proposed in that room by himself, but in his absence it was proposed by Mr. Sturtin, being as follows: "That the present incidence of local taxation, imposing as it does many new and national charges not mentioned or contemplated by the original Act of Elizabeth, and falling as it does on real property only, is unjust and requires revision; and that no Bill on this subject which continues the exemption of any other property from contributing towards these new and national burdens will be regarded as just and satisfactory by the owners and occupiers of real property." That motion was passed unanimously, and the motion which he had placed on the notice paper of the House of Commons was as nearly as possible the same, it was certainly conceived in the same spirit. The notice was as follows: "On the second reading of the Local Taxation Bill to move that the continued exemption of income derived from personal wealth from contributing its fair share towards the burdens of local taxation is a great injustice, and that no Bill dealing with this question on the basis of a continuance of such exemption can be accepted as a satisfactory or final settlement of the grievance complained of." He repeated that if the words of that motion were not the same as those of the motion passed there the spirit was the same, and he did not think any one could say that he had acted in opposition to the meaning and intention of the Chamber in placing that motion on the notice

paper (Hear, hear). He would further say with regard to the personal remarks made in reference to himself, that he thought he had fair ground for what he had done. That was a subject to which he had devoted great attention; he took it up several years ago, before he obtained the honour of a seat in the House of Commons, and, he would add, before their worthy President commenced his efforts, and yet owing to various circumstances he had never had an opportunity of saying a single word upon it in the House of Commons. Their worthy President made a most exhaustive speech, which extended over two hours; Mr. Goschen followed with another two hours' speech, and that entirely precluded any one else from saying a word. That was an absolute fact. Some of his constituents, he knew, held the opinion that, as he had said a great deal out of the House of Commons, and in his own county, or the county which represented on that question, it was odd that he had never expressed his opinions in the House. He thought it was odd; and when the Government bills were announced for the second reading on a certain day, it was within his legitimate province as a member of the House, who had taken great interest in the question, to put a notice on the paper. He was most careful to make the words of his notice of motion almost identical with those of the resolution which had been unanimously passed by that Chamber—a resolution which he undertook to propose with the full assent of the committee of the Council which sat on the previous evening. It was unanimously agreed that that resolution should be proposed by him; it was in fact proposed during his temporary absence by Mr. Startin; it was unanimously agreed to; and he did think that in giving the notice that he had done under those circumstances, he had not exceeded either his duty as a member of the House of Commons or the courtesy and right mode of action which was due from every member of that Chamber or that Council (Hear, hear). That was his view of the case; and he thought it would have been fairer to him if those gentlemen who had made the observations which had been made in reference to himself had given him notice privately that they intended to make them. Certainly that course would have been much more likely to induce him to withdraw his resolutions, if they were not in accordance with the spirit of the Chamber; but he did not think it could be likely to conduce to friendly feelings for a member of Parliament to be called to account without any previous notice.

Mr. HENEGGE said he very much regretted the three last speeches which they had heard, in consequence of the effect which they must produce out of doors (Hear, hear). He still hoped, however, that Sir George Jenkinson would regard the remarks of Professor Band in the spirit in which he believed them to have been uttered (cheers). All the Professor asked for was united action, and he deprecated any independent course being taken by any one which might tend to jeopardise the result of the proceedings of the Chambers (Hear, hear). He felt sure that Sir George, in putting his notice on the paper, had not the slightest intention to jeopardise the success of any effort which the Chamber might make to improve or to defeat the Bills, and no one would grudge him any speech which he might make, or an opportunity of displaying his abilities in the House of Commons. But the question before them was far more important than that of any individual member's being aggrieved (Hear, hear). The question was, whether they should divide their forces (Hear, hear)—whether they should have a discussion on the subject before the thing had been maturely considered, and thus support those whom they desired to weaken. He would appeal to Sir George Jenkinson, with regard to whom, not being in the House of Commons, he could have no feeling of jealousy, and who was on the opposite side of politics to himself, to join in the endeavours which were being made to secure united action on that question, and not to allow it to become either a personal or a party question (cheers).

The CHAIRMAN said he must say, in answer to Professor Band, that Sir George Jenkinson had not consulted any member of the Local Taxation Committee as to the course which he should take. He thought, however, his hon. friend was perfectly justified in taking that course. He was sure Sir George did not feel the slightest jealousy in relation to himself (Hear, hear). He (the Chairman) would gladly hand over the management of that question to any man who would work it. No man could feel the responsibility involved in such a

position more than he did; but he said deliberately that it was very unadvisable for any private individual—he did not care who he was—to take a course which was not concurred in by everyone whom he should endeavour to induce to vote with him (Hear, hear). His recommendation was that all the members on both sides of the House who were likely to support their view of the matter should confer together as to the course which ought to be adopted, that before any course was determined upon all those members upon whom they could rely should meet for consultation, and that a resolution should be framed with the greatest possible care. So far as he was concerned he hoped to have nothing to do with the lead, and what he proposed was that some gentlemen sitting on the front benches should be asked to take the lead.

Sir G. JENKINSON would appeal to Sir Massey Lopes whether he had not on every occasion co-operated with him on that question.

The CHAIRMAN: Yes, and more than that, done it most efficiently.

Sir G. JENKINSON said what he complained of was that that question had been brought forward that morning without any previous notice having been given to him.

Major PARKER, M.P., said that although he had the best interests of agriculture at heart, yet, as a member of the House of Commons, he could not help feeling somewhat sensitive with regard to the observations which had been made in reference to the discharge of important duties by those who were sent to Parliament to represent a particular constituency. It was of course expedient for members to consult together, but if any gentleman felt it incumbent upon him to take a certain course, he should not be subjected to criticism on that account. He sympathized with Sir George Jenkinson, and considered this attempt to stifle what in the discharge of his duty as a member of Parliament he wished to bring before the House of Commons injudicious (expressions of dissent).

Mr. CORRANCE, M.P., would again appeal to his friend Sir George Jenkinson in favour of united action. He believed that Professor Band had no desire to give offence (Hear, hear); and, on the other hand, he was glad that Sir George had had an opportunity of explaining his position (Hear, hear).

The CHAIRMAN, after expressing a hope that the subject would be allowed to drop, put the motion before the meeting, and it was carried unanimously.

Mr. C. S. READ, M.P., observed that a very long and exhaustive report had been presented by the Local Taxation Committee, and he supposed the Committees of the provincial Chambers would have to "read, mark, learn, and inwardly digest" it, before they would know exactly what to do. But there were a great number of farmers who were not particularly fond of reading, and did not care to wade through a long document; and he thought the Council would best carry out the object of their assembling that day by passing a short resolution, pointing out to the district Chambers the chief shortcomings of the Government Bills. He would then propose the following: "That this Council would particularly direct the attention of the local chambers to the fact that the bills of the Government on local taxation continue the exemption of income arising from personal wealth from contributing to the relief of the poor and other local rates; that the division of rates between landlord and tenant does nothing to relieve owners and occupiers of houses and land from any of the burdens of which they justly complain; and that the powers which will be conferred on the proposed new Government Board will further restrict local self-government, and increase centralisation and local expenditure" (Hear, hear). He believed that resolution embraced the three most essential parts of the Government measure to which it was desirable that the attention of the local chambers should be directed (Hear, hear).

Mr. HENEGGE seconded the resolution.

Lord MAHON, in supporting, it said his object in doing so was to have something tangible placed distinctly before the chambers.

The resolution was then adopted unanimously; after which the proceeding terminated with a vote of thanks to the chairman.

CATTLE INSURANCE.

The Committee of the Ayrshire Agricultural Association appointed to consider the best means of insuring dairy stocks, on a sound and economical plan, against the mortality arising from disease and accidents, reports as follows:

1st. They have examined the tables published by Mr. Gairdner in 1866, constructed from data derived from 1,114 farms in the northern half of the county, and showing the death-rate, from all causes, on these farms, in the years 1852, 1853, and 1854, to have been on an average, in each class of stock, as under:

Class.	Per Cent.	d.
1. Three years old and aged cows	2.59	6.21 per £
2. Two years old cows	1.46	3.50 "
3. One year olds	4.24	10.17 "
4. Calves	4.73	11.35 "
5. Two years old and aged bulls	2.08	4.99 "
6. One year old bulls	5.12	12.28 "
7. Feeding stock	0.88	2.11 "

2nd. These rates are, in the opinion of your Committee, probably higher than the actual rate in any subsequent year since 1854.

3rd. Upon a close examination of Mr. Gairdner's tables, and comparing them with the returns made to Government by Mr. Telfer in 1870, it is found that the disease known as pleuro-pneumonia attacked the various classes of animals thus:

1852, '53, AND '54.				1870.			
Class.	Cases.	Deaths	Per cent- age of Deaths to Cases.	Cases.	Deaths.	Per cent- age of Deaths to Cases.	
1	1544	658	42.61	111	66	59.45	
2	141	68	48.22				
3	178	93	51.68	7	4	57.14	
4	136	103	75.73	5	2	40.00	
5	18	7	38.88				
6	14	9	64.28	1	1	100.00	
7	46	21	45.65				

From the above it would appear that this disease, which is next to rinderpest, much the most deadly with which our stocks have to contend, was in 1870 more virulent in its operation than it was in 1852-3 and '54.

4th. On the other hand, the proportion of deaths from the same disease, to the stock of cattle, contrasts very favourably in 1870 with the returns obtained by Mr. Gairdner, viz.:

	Stock.	Average per centage of Deaths in 1852, '53, & '54.	Stock.	Actual per centage of Deaths in 1870.
Cows	16,527	1.329	38,000	0.173
Two-year-olds	4,302	0.539		
Heifers			24,500	0.016
Year-olds	4,728	0.648		
Calves	4,364	0.780	14,000	0.014

This remarkable falling-off in the death-rate must be largely attributable to the beneficial operation of the Contagious Diseases (Animals) Act.

5th. Your Committee are decidedly of opinion that a Joint Stock Company, with a paid-up capital, would not be found to work so advantageously as an association upon a mutual system of insurance, and they would therefore suggest to the stock-owners of the county that it is worthy of consideration whether they should not concur in a scheme of assessment among themselves to meet the casualties that annually arise from pleuro-pneumonia alone, and they conceive that, if generally gone into, a rate of 1d. per £ on the total value of each stock would be found sufficient one year with another; but if only partially adopted, i.e., if those owners of stock, who have hitherto been exempted from the disease, hang back from the proposal, the rate could not be expected at first to be less than 2d. per lb.

6th. When this plan, if adopted, has been in working order for a few years, your Committee conceive that it may possibly be found advisable ultimately to extend the operation of the scheme from pleuro-pneumonia alone to deaths from all causes.

7th. In conclusion your Committee consider that further action in this matter must be taken by the stockowners themselves; and, should they resolve in sufficient numbers to act on the above suggestion, there are no obstacles in the way of bringing it into working order, which unanimity, energy, and prudence cannot overcome. ROBERT GAIRDNER, Convener.

28th March, 1871.

THE REVENUE AND THE HARVEST.—The only basis for an estimate of the future is our experience of the past. Ten years ago Mr. Gladstone had a great warning in this matter. Now, there has been an enormous increase in the last financial year in the most important part of our indirect taxation, and the revenue then, as now, was in a state of great elasticity:

For 1859-60, the Customs were	£24,461,000
Excise was	20,361,000
	£44,822,000

being an increase of £2,803,000 upon the previous year; and accordingly, for 1860-61, Mr. Gladstone, being, as he afterwards explained, advised so to do by the responsible permanent heads of the revenue departments, estimated on this basis.

But, in fact, the

Customs were less than the estimate	£125,000
Excise	1,926,000

Together.....£2,051,000

and a great deficit was the consequence. And the reason was very simple. The main cause of difference of revenue in different adjacent years is the harvest. Now, in 1860, the harvest, both for wheat and barley, was very bad, and the revenue fell off, as we have seen. We hope that we shall have a good or fair harvest in 1871, but it would be madness to be sure of it. We must not speculate on the seasons, though this is really the effect of taking the revenue yielded by a period of cheap corn, and using it as a datum of expectation for what may be a period of dear corn.—*The Economist*.

MEETING OF LABOURERS.—At Adforton, another village in Herefordshire, a second demonstration has been made by the agricultural labourers, Mr. Strange being again called to the chair. During a long discussion the following resolutions were put and passed: 1. "That we memorialise the landlords from the Society concerning the cottages, at the same time earnestly requesting them to look at the present state of the cottages." 2. "That we memorialise both landlord and tenant that they take into their serious consideration the subject of 16s. per week wages, without privileges, but extra time to be allowed." 3. "That the Society memorialise the landlords to take into their serious consideration the subject of cottages on farms having four acres of land, and all townships and villages being supplied with allotments." The Society will henceforth be called "The North Herefordshire and South Shropshire Agricultural Labourers' Improvement Society." In connection with this is a sort of second Society formed out and grafted on to the other, which will be called "The North Herefordshire and South Shropshire Emigration Society in connection with the North Herefordshire and South Shropshire Agricultural Labourers' Improvement Society." There will be a grand committee, and in every parish a sub-committee. The grand committee to be formed by the picked men from each of the sub-committees. The sub-committees will consist of two agricultural labourers to one of every other class. A ballot will take place at Christmas, and the man getting the most votes will be assisted to emigrate. If the funds are sufficient the man having the next largest number of votes will go, and so on as far as the funds will extend.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REVIEW FOR APRIL.

Farming operations have been carried on during the past month with marked success, though out-door labours have been occasionally impeded by the rainfall. The rain, which has lately fallen, has been of the greatest value to the country, and has supplied the moisture the want of which was beginning to make itself seriously felt. Under its influence the grass lands have revived, and a great stimulus has been given to the growing wheat crops and to vegetation generally. A large breadth of land has been satisfactorily worked, and the seed time has been a most favourable one. Spring sowing was carried on rather late in the season, owing to the extra breadth of land placed under spring wheat, in view of the large demand on French account. Beans and pea sowing have been completed under very favourable conditions, while potato planting has also been brought to a close. With regard to the autumn-sown wheats the prospect is a good one. The young plants are well above ground, and are looking strong and healthy, though we hear complaints from some quarters of the presence of wireworm and grub. This, however, is very partial, and the general outlook is certainly a favourable one for the time of year. At the same time it must be borne in mind that it is as yet very early in the season, and that any prognostications formed from present appearances may be utterly falsified by the altered position of the plant later on.

The course of prices during the past month has been rather in the upward direction, though less firmness prevails as we write. At the opening of the month there was an active demand for fine white qualities for seed, and this gave a tone to the market. The actual rise on the month is not less than 2s. per qr., the closing top price of best white English being 62s. per qr. It would, however, be difficult to dispose of any quantity at that figure at the present moment. Trade has been somewhat disappointing in its character, on account of the state of affairs in Paris, which has prevented the expansion of the export trade to the extent anticipated. The future course of prices depends much upon the condition of French politics, as should communications with Paris be reopened at an early date, there will be a large movement of breadstuffs thither. Stock of both English and foreign wheat are now low, and though the resumption of shipments from the Baltic and South European ports and from the American canals will fully supply all our requirements, there is no present appearance of any important downward movement in the quotations. Should the existing obstacles to trade with France be removed, speculation, assisted by cheap money, will revive, and prices may again advance. The flour trade has ruled somewhat dull, a large supply having been manufactured for shipment to France, which has, however, now passed into home consumption. All spring corn has ruled quiet, though malting barley closes at an improvement of 1s. per quarter. Maize and oats have remained about stationary in value. Beans and peas close with dulness.

The improved aspect of the pasture lands is a most favourable feature; indeed, the only crop of which we can seriously complain is winter beans, which have in many instances been severely bitten by the frost of the past season. But the prospect of the hay crop presents a very favourable contrast to last year. Prices of hay in the metropolitan markets have accordingly declined, and we now quote prime meadow hay 180s. to 140s., inferior ditto 80s. to 110s.; prime fresh cut clover 135s. to 145s., inferior ditto 110s. to 120s.; prime second cut clover 135s. to 140s.; inferior ditto 100s. to 120s.; and straw 36s. to 44s. per load.

The hop trade has been dull and depressed, and the tendency of the quotations has been decidedly downwards. The closing top price for Mid and East Kents is 26 6s. to 26 10s.; for Woad of Kents, 23 10s. to 23 15s.; and for Sussex, 23 10s. per cwt.

The wool market has been very firm, and the public sales of colonial produce have been well attended, notwithstanding

the absence of French buyers. An advance averaging 0½d. to 1d. per lb. has taken place in prices. The better classes of English wool have sold freely throughout the month, the demand having been chiefly confined to choice lustrous.

REVIEW OF THE CATTLE TRADE FOR THE PAST MONTH.

The cattle trade has been somewhat unsettled since we last wrote, and prices have slightly receded. Alternately steady and depressed, the fluctuations have been more numerous than on former occasions. The supplies of stock forwarded to market from our own grazing districts have been about as average, but those from abroad have been limited. A fair number, however, has been detained at the water-side, the weekly average being about 600 beasts and about 7,000 to 8,000 sheep. In future stock coming from Germany will be allowed to pass the barriers and go on to the market, but they must be slaughtered within ten days. The late rains have wrought a great improvement in the appearance of the pastures and meadow lands. Grass is much more abundant, and cattle can obtain food in plenty. The stock forwarded to market is consequently heavier, and some good serviceable animals have come to hand. As regards beasts, the receipts have been tolerably good. At one time the value of the best Scots and crosses was 5s. 10d. per 8lbs., but easier rates have since ensued, and the best breeds can not now make more than 5s. 6d. per 8lbs.

With sheep the market has been moderately supplied. The trade has been quiet, but firm on the whole, and the best Downs and half-breeds have made 5s. 10d. to 6s. per 8lbs. out of the wool.

With references to the lamb trade the best breeds have been in request, and have readily made 8s. per 8lbs., and occasionally more. Inferior animals, however, have been unsettled in value.

With moderate supplies the calf trade has been quiet, at about late rates.

Pigs have been disposed of at about previous quotations.

The total supplies of stock exhibited and disposed of at the Metropolitan Market during the month have been as under:

	Head.
Beasts	10,973
Sheep and Lambs	89,045
Calves	545
Pigs	540

COMPARISON OF SUPPLIES.

April,	Beasts.	Sheep & Lambs.	Calves.	Pigs.
1870	19,528	164,553	1,800	490
1869	18,849	144,780	1,839	485
1868	16,380	138,600	1,408	1,785
1867	16,250	113,770	977	1,805
1866	11,350	120,180	808	2,331
1865	19,970	92,880	1,979	2,029
1864	23,900	107,910	1,596	2,160
1863	19,390	113,060	1,841	2,540
1862	19,000	110,500	1,077	2,055
1861	17,140	109,680	497	2,065
1860	18,612	114,450	1,848	2,160
1859	16,850	110,114	490	1,900
1858	17,950	104,380	1,398	2,077

The total imports of foreign stock into London during the past month have been as follows:

	Head.
Beasts	6,978
Sheep & Lambs	63,467
Calves	707
Pigs	469
Total	49,563

Import at corresponding periods:

Total in 1870	...	...	...	37,068
" 1869	...	...	...	48,925
" 1868	...	...	...	18,267
" 1867	...	...	...	36,925
" 1866	...	...	...	37,115
" 1865	...	...	...	27,816
" 1864	...	...	...	15,448
" 1863	...	...	...	16,031
" 1862	...	...	...	9,616
" 1861	...	...	...	11,119
" 1860	...	...	...	10,489
" 1859	...	...	...	8,888
" 1858	...	...	...	6,998

The arrivals of beasts from our own grazing districts, as well as from Scotland and Ireland, thus compare with the three previous years:

	April, 1871.	April, 1870.	April, 1869.	April, 1868.
From Norfolk, Suffolk, &c.	6,450	8,431	4,820	6,800
Other parts of England.....	2,100	2,548	2,666	4,030
Scotland	752	1,479	571	1,387
Ireland.....	890	735	853	290

Beasts have sold at from 3s. to 5s. 10d., sheep 3s. 2d. to 6s., lamb 6s. 6d. to 8s. 4d., calves 3s. 8d. to 5s. 6d., and pigs 3s. 6d. to 5s. 4d. per 8lbs., to sink the offal.

COMPARISON OF PRICES.

	April, 1870.				April, 1869.			
	s.	d.	s.	d.	s.	d.	s.	d.
Beef from ...	3	0	5	0	3	2	5	8
Mutton ...	3	0	5	0	3	2	6	6
Lamb ...	7	6	8	0	6	0	7	8
Veal ...	3	10	5	8	4	8	6	2
Pork ...	0	0	0	0	3	8	5	2

	April, 1868.				April, 1867.			
	s.	d.	s.	d.	s.	d.	s.	d.
Beef from ...	3	2	5	0	3	4	5	2
Mutton ...	3	4	5	6	3	6	6	0
Lamb ...	6	6	7	8	7	0	8	0
Veal ...	4	0	5	6	4	6	6	0
Pork ...	3	4	4	4	3	0	4	2

The dead meat markets have been moderately supplied. The trade has been quiet on the whole. Beef has sold at 3s. 8d. to 5s., mutton 3s. 4d. to 6s., lambs 7s. 6d. to 8s., veal 5s. to 5s. 8d., and pork 3s. 10d. to 5s. 4d. per 8lbs. by the carcase.

BEDFORDSHIRE.

We have experienced cold winds and sharp frosts this spring, which make all kinds of vegetation backward. Many of our growing wheat crops are looking very thin: one of the main causes is the frost, but in some cases the wire-worms have been very busy, and we think it is impossible to come anywhere near to an average crop, as the plants have appeared so weakly as well as thin. Some of our farmers have been sowing spring-wheat, and drilled it across the sickly pieces of wheat. For the past few days we have had some delightful showers, which will very much refreshen the earth, as almost everything needed rain. The winter beans, too, have suffered much from the ravages of the wire-worm and the frosts, and are looking far from well. We have noticed some farmers dribbling or dibbling peas across the rows of the winter beans to help to make up a crop. On the 6th and 7th of this month we were visited with a very severe frost, cutting down many pieces of barley almost level with the ground, and also cutting many of the wheats on the light and fenny soils: the latter looks so bad in some cases that we think it can scarce ever recover even to make half a crop. We see the markets have made but slow progress, although the account of the growing wheat crops are generally far from good. We are almost at a standstill to know what is best to feed our stock with, straw, hay, and roots being now almost consumed. But we hope now with these pleasant showers and some warm weather we may get some grass. The grass, like everything else, has been so stopped in its growth by the frosty nights that it has scarcely commenced its growth. Store stock is fetching very high prices, and we begin to ask ourselves whether it will pay much for our summer's keeping? We are afraid we shall have but a poor dividend left us by next Michaelmas. It depends to a great extent whether meat still maintains its present prices.—April 19.

HORSES, THEIR BREEDING AND MANAGEMENT:

SHOWING LIKEWISE THAT THE NATIONAL SPORT OF FOX-HUNTING IS IN NO WAY DETRIMENTAL TO THE TRUE INTERESTS OF AGRICULTURE.—At the meeting of the Midland Farmers' Club in Birmingham, Mr. Edmund Tattersall being unable to attend and read a paper, Mr. Wise, the new chairman of the Club, delivered an address on the above subject, and on the very borders of the Shires recommended the farmers to try breeding hunters from a stallion with a stain in his pedigree! A sporting journal characterises the opening speech as full of false principles and stale stories; and there certainly appears to be little in it worth giving beyond the range of the Club, where the chairman's remarks seem, nevertheless, to have been received with the highest approval.

BRIDLINGTON HORSE SHOW.—Prizes awarded: Hunting stallions, 7 entries; first prize £4, awarded to W. Sharp, Skipton (Prince Plausible); second prize, £1, H. S. Constable, Wassand (Theobald). Roadster stallions, 4 entries; first prize £4, J. Cook, Nafferton (Denmark); second prize, £1, T. Brown, Butterwick, Malton (Bay President). Stallions for agricultural purposes, 4 entries; first prize, £4, W. Simpkin, Burton Agnes (Sir William Wallace); second prize, £1, J. Johnson, Bampton (Noble).—Judges: J. Holiday, Barnstaple; J. Milner, Middledale; B. Crowe, Speeton; T. Reed, Upton; W. Knapton, Kalk; and G. Walmaley, Rudston.

PETERBOROUGH HORSE SHOW.—Thoroughbred stallion for hunting purposes (open to all England); prize, £10, — Goodman, jun., Willow Hall (Bertie by Newminster, out of Queen Mary). Cart stallions of any age (open to all England), prize, £10, J. Middleton, (Bntland Hero). Cart stallion under four years old (open to all England), prize £5, W. R. Cooke.—Judges: Thoroughbred horses, T. Gould, Swaffham; Cart horses, J. Plowright, of Manea, and T. Woods, of Witchley Warren.

CRUELTY TO CATTLE.—At the Shire Hall, Dorchester, Mr. William Mansfield, one of the largest farmers of Dorset, was charged with starving his cattle on the Portisham and Burton estates. Mr. Colam prosecuted for the Society for the Protection of Cruelty to Animals: Mr. Andrews, of Dorchester, defended. Henry Taylor, one of the Society's officers, said that on March 29, accompanied by Superintendent Hare, of Dorchester, he visited the defendant's farm at Portisham, when he saw forty or fifty head of cattle, very poor and weak, many of them being unable to walk. They looked dejected and miserable. In a meadow adjoining the farms several cows were lying down in a helpless condition, while in the farmyard were several others, reduced to skin and bone, and also unable to rise. An old horse was trying to eat out of a manger some chopped straw, it was scarcely anything but skin and bones. A sample of the food was produced in court; it consisted of furze and straw chaff, with small mustard sticks. This evidence was confirmed by Mr. Arthur Cherry, V.S. under Government, who said he found no traces of disease on the animals, which were in a "deplorable and miserable condition," suffering from the deprivation of sufficient nutriment. The sample of food produced was totally unfit for food. Mr. G. Flemming, F.R.G.S. and author of several medical works, said he had examined the animals and come to the conclusion that they were suffering from starvation. Some of them were almost living skeletons. It was also shown that at the time of the inspector's visit there was an entire absence of artificial food and herbage of any description, and that cows were being buried, while a cow was dying under a shed. Mr. Andrews set up the defence of a bad season for food. Defendant was fined £15 including costs.

CONVICTION UNDER CATTLE DISEASES ACT.—At the Birkenhead Townhall, Richard Goddard, butcher, Jackson-street, Birkenhead, was summoned under the Cattle Diseases Act for exposing in the Birkenhead slaughterhouse 175 sheep which were affected with a contagious disease (scab). The prosecution was at the suit of the Government inspector. Mr. Anderson, for the defence, urged that the defendant did not know the sheep were diseased when he bought them in the usual way of business. The case was declared proved, and the defendant fined £100 and costs, being at the rate of £1 for each of 100 sheep. Fine to be raised by distraint, with the alternative of two months' imprisonment.

THE IRISH LAND ACT.—A STIFF CLAIM.—At

Baltinglass, Martin Kelly, a shopkeeper of Dunlavin, and also a tenant from year to year of 66 acres of land, put in a claim for disturbance and improvements. The items were tabulated as follows: 1, two years' rent, the holding being valued at £72 per annum, and the annual rent £95 10s.—£181 18s.; 2, improvements in draining from the year 1855 to 1861, both inclusive, £150; 3, from March, 1851 to 1870, expended in the purchase of manure and drawing same to said lands, a distance of three-and-a-half miles, £1,700; 4, half expenses of making a ditch, about 15 perches, at 4s. 6d., £1 10s. 9d.; 5, liming the lands from 1855 to 1864, £115; 6, half-expense of making 46 perches of fence, at 2s. 6d., £4 10s.; 7, to hay and straw bought and made into manure by the cattle on said lands within the period in margin (1863 to 1870), and used on said lands, £1,020; 8, building a barn, £40; 9, levelling and filling bogholes, £5; 10, laying down six acres with permanent grasses, £18—total, £3,326 3s. 9d. The Court allowed Mr. Kelly £283.

THE NEW GAMEKEEPER.—The Duke of Beaufort has caused the following circular to be addressed to his tenantry in the counties of Somerset, Wilts, and Gloucester: "Dear Sir,—I am requested to inform you that the Duke of Beaufort has decided to do without keepers for the future, and to entrust the preservation of game and foxes to his tenantry.

If you will therefore be good enough to attend to his grace's wishes in this matter, and prevent all poaching and trespassing, you will be entitled to one half of the game killed on your farm, his grace retaining the exclusive right of shooting and sporting for himself and friends.—Yours truly, John Thompson."

OPENING OF THE NEW CORN EXCHANGE, TUNBRIDGE WELLS.—A public dinner, in celebration of the above event, took place in the New Corn Exchange, a well-built and commodious building adjoining the Royal Sussex Hotel. The Earl of Abergavenny, who presided, said the tenant-farmers must recollect that if the town of Tunbridge Wells is full of hunters during the hunting season, those hunters must be supplied with straw, hay, and corn. Straw, hay, and corn must be purchased of the farmers first, and I am, therefore, one of those who have thought and still think that foxhunting is a very great benefit to any neighbourhood. True, there are certain people who think foxhunting a nuisance. I cannot deal with them. If their fences are broken down and their chickens are taken, I shall be happy to put up their fences—I shall be happy to supply them with chickens; but I must leave the actual dealing part of the business to what I call the British public.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

April commenced very much like the beginning of March, with sharp winds, smart night frosts, and a total absence of rain for twelve days, which caused many fears for the crop of hay and the recently-sown spring corn; but afterwards it came in abundance for about a fortnight, with a very growing temperature, which had a most beneficial and sudden effect upon vegetation. Even the wheat plant has been greatly forwarded; but many reports come of its damage by wireworm, which greatly multiplied in the dry year 1870, and we cannot now take so favourable a view of the next crop as at one time was promised. The market during the month hardened in value about 2s. per qr., but slackened after the abundant rains, and it was with difficulty that on the fourth Monday in London prices were maintained. In spite, however, of the sad state of Paris, our exports have about equalled our imports of English growth—say, 20,000 qrs., and had things been settled in France, they might have been doubled; and in the prospect that they now soon will be, from the growing strength of the Government, holders both of English and foreign wheat have been indifferent about making sales at any reduction, notwithstanding the general opening of the ports in the Baltic and Black Seas, and the probable speedy breaking up of the ice in the canals of North America. The fact is stocks have been getting reduced both in farmers' hands and in the large granaries. When we look at our own deliveries for the past month, as compared with 1870, we find an increase of 57,131 qrs., which must have told upon farmers' stocks, and with prices abroad unusually high, partly as the consequence of defective crops and partly as the effect of the Franco-Prussian war, the setting in of low rates seems very improbable, and holders gaining confidence are disposed to take their chances. Large shipments will, doubtless, be made from the Black Sea and Sea of Azoff, but the Italian States will take off a portion of these supplies as well as Marseilles, while Holland, Belgium, and Northern France will absorb many from the Baltic, and whenever our arrivals off the coast get apparently too heavy for British wants, slightly easier rates causes an immediate foreign diversion. No accounts are now received from Paris,

but provisions have advanced, and horseflesh being resumed, flour must have followed. At Marseilles the following rates have ruled: Marianopoli wheat 55s., Danube 49s.; at Bordeaux fine qualities were quoted 58s. to 60s. 6d.; Danish red at Antwerp, 66s., English 65s., New Zealand at Rotterdam, finest old 60s. 6d., new 63s. At Hambro' the range of prices was 55s. 6d. to 59s.; at Stettin and Berlin the best red, 55s. to 56s. free on board; at Copenhagen 65s. cost, freight, and insurance; high mixed at Konigsberg to 62s. 6d. cost, freight, and insurance; ditto at Danzig 63s.; at Leghorn, Barletta, and Romagna wheat 55s. to 67s., Marianopoli 52s., Berdianski at Messina, 51s.; at Genoa, 58s. per qr. Ghirka 56s. Wheat of fine white quality at San Francisco 51s., new red Spring at New York, 51s. 9d. per 480lb. Wheat at Adelaide 4s. 9d. per bushel.

The first Monday in Mark Lane opened on a moderate supply of English wheat, with but little foreign, which was nearly equalled by the exports. The show of samples on the Essex and Kentish stands was limited, and the condition much improved by the strong breezes of the previous week. This, with rising country markets, emboldened factors to demand one shilling advance, which millers eventually paid, but limited their purchases in consequence, and some was left on hand. The foreign trade, though more active, seldom reached beyond great firmness in price, but cargoes afloat went off more freely, at full rates. It being Easter-week, business in the country was necessarily small; yet the course of prices was against buyers, with more decision than was evinced in London. The following places quoted a full rise of 1s., namely, Barton, Bristol, Hull, Ipswich, Lincoln, Maidstone, Sleaford, Wakefield, and Birmingham; while several noted a rise of 1s. to 2s., as Boston, Manchester, Melton Mowbray, Newark and St. Ives; and Liverpool were up 2d. to 3d. per cental on Tuesday. Edinburgh advanced 1s. per qr. for Wheat, and Glasgow 6d. to 1s. Irish wheat at Dublin was 6d. higher, and rather dearer for foreign.

On the second Monday there was less English wheat, but a good arrival of foreign. The exports were small. Factors, taking a lesson from country advices and a poor

supply from the near counties, were again seeking to establish an advance, and once more obtained a partial success, but there was very little done at the rise, though it was subsequently paid on Wednesday. The business in foreign, though not extensive, was at full rates, the previous being occasionally exceeded, though with difficulty. Cargoes afloat of good quality obtained 6d. to 1s. more, but inferior bulks were difficult to place. With the holidays over, the country trade again spoke out for higher prices, with a more decided success, nearly every market reporting an improvement of 1s. per qr., while the following were 1s. to 2s. higher, viz., Hull, Wakefield, Spalding, Uppingham, Newark, Barton, Barnsley, Sheffield, and Gloucester, but fully 2s. more was made at the following towns, viz., Sleaford, Louth, Birmingham, &c.; Liverpool improved 2d. per cental on Tuesday, and that was all. Glasgow was scarcely more than firm, but Edinburgh was 1s. to 2s. per qr. dearer. Irish wheat at Dublin was steady, and foreign improved about 6d.

On the third Monday the English supplies were lessened, but the foreign further increased, the arrivals being principally from Dantzic and Odessa, with a fair quantity from New York. There was a moderate show on the Essex and Kentish stands, and factors again were asking higher rates; and though the country markets appeared to justify this, a very genial and growing week having been experienced, there was no further disposition to pay increased prices, so nothing above the previous currency could be realised, and even then trade was slow. There was rather more steadiness in foreign, but in this branch also higher rates were resisted. The floating trade was steady as to fine samples, but calm for inferior. The very decided and beneficial change to rainy and mild weather was not without its usual influence on the wheat trade in the country. A check was put to the upward movement, though in a few instances it was still followed; but this was balanced by an equal decline at some places, Stockton and Market Harborough being 1s. per qr. lower, and at St. Ives the decline was 1s. to 2s. Liverpool, on Tuesday, quite lost its buoyancy, and on Friday the market was 1d. per cental lower. Edinburgh gave way 1s. to 2s. per qr., and Glasgow was cheaper to sell. There was still a fair demand for native wheat at Dublin, but foreign was dull, and scarcely maintained its former value.

On the fourth Monday the supply of English wheat was small, but the foreign arrivals fair. The show of fresh samples on the Essex and Kentish stands during the morning was short, and the condition somewhat affected by the continuance of rainy weather. With some of the country markets cheaper, millers expected to obtain a reduction of 1s. per qr.; but factors resisted the decline on the ground of the small supplies and continued exports, and in the end obtained the previous rates on the quantity sold, though with difficulty the foreign trade was also dull: holders of inferior quality would have taken rather less money, but fine sorts were unaltered.

The imports of wheat into London for four weeks were 20,379 qrs. English, 69,912 qrs. foreign, against 20,270 qrs. English, 42,829 qrs. foreign, for the same period last year. The total imports into the kingdom for the four weeks ending 15th April were 2,154,783 cwt. wheat, 312,515 cwt. flour, against 1,905,683 cwt. wheat, 456,655 cwt. flour, for the same period last year. The London exports for four weeks were 19,502 qrs. The London averages commenced at 58s., and closed at 60s. 2d. The general averages commenced at 55s. 2d. and ended 57s. 6d.

The Flour trade through the month has been steady, with prices much the same. Town flour has kept at 50s. per sack, and, during the upward move-

ment in wheat, it was thought there would be an advance; but on the third week, with fine rainy weather which set everything growing, this idea was given up. Norfolks have ranged from 87s. 6d. to 89s., and this last price was hard to realise on the last Monday. The disturbed state of Paris has doubtless stopped the exports. The imports into London for four weeks were 78,894 sacks English, 7,014 sks. 67,896 brls. foreign, against 76,091 sks. English, 4,372 sks. 30,804 brls. foreign for the same period in 1870.

The receipts of maize this month though increased have not been sufficient to reduce the high price, 35s. to 36s., being still paid; but in May, when the canals open in America, we may expect a fair arrival and somewhat lower rates, as the last crop was good. The quantity received has been 17,465 qrs. against 26,101 qrs. in 1870.

The supplies of barley have been limited, both British and foreign, and, in spite of the small demand for malting, values of fine have risen about 1s., and foreign of all qualities has participated in the improvement, maize being so dear. Malting prices are, however, not to be relied on at so late a period, but this indicates the exhaustion of the English crop; grinding sorts are worth 27s. to 30s. per 400 lbs. The imports into London for four weeks were 5,806 qrs. British, 18,107 qrs. foreign, against 6,178 qrs. British, 44,227 qrs. foreign in 1870. The month has brought an export also of 2,904 qrs., which has helped to sustain prices.

The malt trade has also hardened as respects the value of fine qualities, but not for inferior. An export has taken place of 2,381 qrs.

The long continued drain upon the stocks of oats in the granaries for export, and the limited arrivals caused the oat trade on the third Monday suddenly to rise 1s. 6d. to 2s., and many factors' stands were wholly without samples. 38 lb. Riga's have become worth 25s., and Swedes 26s., with higher weights in proportion, but very scarce; last autumn such were worth only 18s. 6d. The granaries have been reduced in first hand stock to only 50,000 qrs.; so there does not seem a probability of any material reduction till the large supplies from Russia get in. On the fourth Monday a sale of 10,000 qrs. was made of Riga's at 17s. 8d. free on board, which promises to pay importers. The imports into London for four weeks were 1,438 qrs. English, 660 qrs. Irish, 121,221 qrs. foreign; the exports in the same time being 20,756 qrs. The imports into London for the same period in 1870 were 1,757 qrs., English, 153,977 qrs. foreign, and the exports only 300 qrs.

Beans being in limited supply have hardened rather in value, being preferred by many to maize for feeding, but the demand has not been extensive. Mazagans were worth about 38s., narrows to 42s., and small to 50s.; Egyptian to 39s. Some new have appeared at Alexandria and brought 36s. 9d. free on board; but on more free arrivals prices were expected to be easier. The imports for four weeks into London were 1,575 qrs. English and 5,227 qrs. foreign, against 2,491 qrs. English and 5,356 qrs. foreign in 1870.

There have been very few peas sent to market this month. During the seed-demand they brought good prices; but since then they have been limited to a consumptive trade, and have somewhat abated; yet they are higher than at the commencement. Fine English white boilers have become worth 45s., foreign 38s. to 40s., duns 40s., maples are beyond market rates from scarcity. The imports for four weeks were only 522 qrs. English and 533 qrs. foreign, against 1,073 qrs. English and 1,680 qrs. foreign in 1870.

Linseed, with arrivals short and no increase of stocks, has well maintained its high rates; the demand, however, has become restricted in consequence, as generally happens. Cakes have found a fair sale at previous currency.

The first appearance of genial rain was welcomed by the seed trade, and brought more demand for cloverseed and other seeds; this, however, having since been satisfied, prices are not reliable, though nominally much the same.

Tares, though irregular in price, have been partly kept up by an export of 1,664 qrs.

**CURRENT PRICES OF BRITISH GRAIN AND FLOUR
IN MARK LANE.**

		Shillings per Quarter.	
WHEAT, new, Essex and Kent, white.....		57	to 62
	red.....	51	58
Norfolk, Lincolnsh., and Yorksh., red.....		51	58
BARLEY	31 to 34.....Chevalier	35	42
Grinding.....	29 31.....Distilling	35	39
MALT, Essex, Norfolk, and Suffolk		60	67
Kingston, Ware, and town-made		60	67
Brown		49	55
RYE.....		36	38
OATS, English, feed 25 to 28.....	Potato.....	30	36
Scotch, feed	00 00.....Potato.....	00	00
Irish, feed, white 23 28.....	Fine.....	28	31
Ditto, black	31 26.....Potato.....	30	35
BEANS, Masagan ..	37 38.....Ticks.....	57	39
Harrow	40 44.....Pigeon	45	50
PEAS, white, boilers.38 42	Maple 43 to 46Grey, new	37	40
FLOUR, per sack of 280lbs., best town households... 47		50	
Best country households		40	43
Norfolk and Suffolk		38	38

FOREIGN GRAIN.

	Shillings per Quarter.
WHEAT, Dantzic, mixed .....57 to 59.....extra.....	60 to 64
Königsberg	58 58.....extra..... 58 60
Rostock	55 58.....fine 58 60
Silesian, red.....	52 56.....white 55 58
Pomera., Meckberg., and Uckermrk. ...red.....	55 58
Russian, hard, 44 to 45...St. Petersburg and Riga	47 52
Danish and Holstein, red 53 53..... American	43 53
Ohilian, white 61... Californian 61 ... Australian	61 60
BARLEY, grinding 27 to 32....distilling and malting	35 38
OATS, Dutch, brewing and Polands 25 to 32.....feed	23 26
Danish and Swedish, feed 25 to 27.... Stralsund...	26 28
Canada 24 to 25, Riga 24 to 26, Arch. 25 to 26, P'sbg.	26 29
TARES, Spring, per qr..... small 42 50.....large	00 00
BEANS, Friesland and Holstein	43 44
Königsberg	40 to 43...Egyptian 38 39
PEAS, feeding and maple...	36 39...fine boilers 38 39
INDIAN CORN, white.....	33 37...yellow 33 36
FLOUR, per sack, French.. 00 00...Spanish, p. sack	00 00
American, per brl.....	26 27...extra and d'ble. 29 30

BRITISH SEEDS.

MUSTARD, per bush., brown 12s. to 14s., white	10s. tolls.
CANARY, per qr.....	50s. 60s.
CLOVERSEED, new red	72s. 94s.
CORIANDER, per cwt.....	21s. 22s.
TARNS, winter, new, per bushel	8s. 8s. 6d.
TRIFOIL, new	24s. 26s.
RYEGRASS, per qr.	36s. 40s.
LINSEED, per qr., sowing 68s. to 70s., crushing	58s. 62s.
LINSEED CAKES, per ton	£11 0s. to £12 0s.
RAPESEED, per qr.....	76s. 80s.
RAPE CAKE, per ton.....	£5 15s. 0d. to £6 12s. 6d.

FOREIGN SEEDS.

CORIANDEK, per cwt.....	31s. to 32s.
CARAWAY ,, new.....	82s. 83s.
CLOVERSEED, red 54s. to 64s.,	66s. 76s.
white.....	45s. 46s.
HEMPSEED, small 41s. to 42s. per qr....	Dutch
TRIFOIL.....	22s. 24s.
RYEGRASS, per qr	38s. 42s.
LINSEED, per qr., Baltic 58s. to 62s...Bombay	62s. 63s.
LINSEED CAKES, per ton.....	£11 0s. 0d; to £12 0s.
RAPE CAKE, per ton	25 15s. to 25 12s. 6d.
RAPESEED, Dutch	76s. 80s.

COMPARATIVE AVERAGES.

Years.	WHEAT.			BARLEY.			OATS.		
	Qrs.	s.	d.	Qrs.	s.	d.	Qrs.	s.	d.
1867 ...	54,046½	...	61 4	11,603½	...	39 8	4,519½	...	25 5
1868 ...	38,948	...	73 8	8,780½	...	43 10	3,653½	...	20 0
1869 ...	55,960½	...	46 8	12,083½	...	41 6	3,065	...	27 7
1870 ...	62,046½	...	42 10	14,615½	...	35 2	2,566	...	21 5
1871 ...	66,115½	...	57 6	15,897	...	36 5	4,309½	...	26 5

AVERAGES

FOR THE PAST SIX		Wheat.		Barley.		Oats.	
WEEKS:		s.	d.	s.	d.	s.	d.
March 11, 1871.....		53	8	36	0	24	10
March 18, 1871.....		54	7	36	1	25	7
March 25, 1871.....		55	2	36	3	26	10
April 1, 1871.....		55	9	36	6	26	4
April 8, 1871.....		56	7	36	8	26	10
April 15, 1871.....		57	6	36	5	26	5
Aggregate of the above ...		55	6	36	4	26	0
The same week in 1870.....		49	10	35	2	21	5

HOP MARKETS.

Mid and East Kents	£3 0	£3 10	£7 0
Weald of Kent.....	2 0	2 16	3 15
Sussex	1 15	2 5	3 10
Farnham and Country ...	3 15	4 15	5 12
Olds	1 0	1 15	2 10

POTATO MARKETS.

SOUTHWARK WATERSIDE.

Yorkshire Flukes	90s. to 110s.
Do. Regents	65s. to 80s.
Lincolnshire do.	60s. to 70s.
Dunbar and East Lothian do.	70s. to 90s.
Perth, Forfar, and Fife do.	45s. to 70s.
Do. do. do. Rocks	45s. to 55s.

BOROUGH AND SPITALFIELDS.

English Shaws	.....	60s.	to	80s.	per ton.
„ Regents	.....	50s.	to	80s.	„
Scotch	.....	55s.	to	80s.	„
„ Rocks	.....	50s.	to	75s.	„

COUNTRY POTATO MARKETS. (Saturday last.)—Dox.

CASTER: The market well supplied with potatoes, and purchasers buy upon more favourable terms, though the reduction is scarcely more than fractional. Regents 6s. 6d. to 7s. 6d., rocks 5s. to 5s. 6d. per load.—**MANCHESTER:** Malta potatoes 2s. to 2s. 6d. per 21lbs.; Yorkshire ditto 11s. to 12s., Scotch ditto 7s. to 8s. 6d., Cheshire ditto 6s. to 8s. 6d. per 252lbs.—**MALTON:** Potatoes in large supply, and the market easy. Dealers still quote table sorts wholesale £3 per ton, and seed £2 to £2 10s. per ton. There was a good show and a fair demand. Retail for table 6d. to 8d. per stone.—**YORK:** There was a very large supply of round potatoes, and the weather being very wet the demand was slow. The prices were from 6s. 6d. to 7s. per tub of 280lbs. wholesale, and from 4½d. to 5d. per 14lbs. retail. Flukes, of which there were few in the market, realized 5d. per stone. Regents and Scotch roughs for planting were from 5s. to 6s. per tub.

PRICES of BUTTER, CHEESE, HAMS, &c.

BUTTER, per cwt. :	s.	d.	CHHESE, per cwt. :	s.	d.
Dorset.....	144	to 146	Cheshire.....	74	to 80
Friesland	126	128	Dbie. Gloucester...	64	64
Jersey.....	116	120	Cheddar.....	70	80
Fansh, per doz. ...	15	17	American	60	72
BACON, per cwt :			HAMS : York.....	86	90
Wiltshire	66	68	Cumberland.....	86	88
Irish, green, f.o.b.	64	68	Irish	74	100

CHESTER CHEESE FAIR.—Sixty tons were pitched which found a tolerably ready sale at prices ranging from 40s. to 78s. per cwt., the average being 60s. All was sold.

GLOUCESTER MONTHLY CHEESE MARKET.—
There was a short supply, not three tons in all being pitched.
Prices ranged from 58s. to 60s. per cwt., and the sale was slow.

ENGLISH WOOL MARKET.

CURRENT PRICES OF ENGLISH WOOL.		s. d.	s. d.
FLEECES—Southdown hogs per lb.		1 0 ¹ / ₂	1 1 ¹ / ₂
Half-bred ditto		1 3	1 4
Kent fleeces		1 3	1 3
Southdown ewes and wethers ...		0 10 ¹ / ₂	0 11 ¹ / ₂
Leicester ditto		1 1	1 1 ¹ / ₂
SORTS—	Clothing, picklock	1 4	1 4 ¹ / ₂
	Prime	1 2 ¹ / ₂	1 3
	Choice	1 1	1 3
	Super	1 0	1 0 ¹ / ₂
	Combing, wether mat	1 2 ¹ / ₂	1 3
	Picklock	1 0 ¹ / ₂	1 1
	Common	0 11	0 11 ¹ / ₂
	Hog matching	1 4	1 4 ¹ / ₂
	Picklock matching	1 0 ¹ / ₂	1 1
	Super ditto	0 11	0 11 ¹ / ₂

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of your Dr.

Dr. A. B. C.

The Hinged Mallard

with a reproduction of his famous work on the Hinged A

PLATE V.

THE SMITHFIELD CUP OX OF 1870.

THE PROPERTY OF MR. WILLIAM TAYLOR, OF GLYNLEY, WESTHAM, SUSSEX.

This North-Devon ox, four years and a half old when exhibited, was bred by Mr. R. Stranger, of Court Barton, North Molton, Devon. He was by Royal Duke, a son of the famous prize bull Duke of Flitton, out of Polly, a cow of a prize tribe in Mr. Stranger's herd.

Mr. Taylor never exhibited this ox but at the last Smithfield Club Show, when he took the first prize of £30, as the best of his class, and the Silver Cup of £40 as the best steer or ox in any of the classes. His live weight was 232 stone 4 lb., and his carcase weight 153

stone. The ox was purchased by Mr. Carr, of the Strand Dining Rooms, where the head may be still seen.

Mr. Cane, one of the judges at the Smithfield Show, pronounced this to be "the most handsome beast he had ever seen;" while we wrote of him as "a wonderfully good beast in a wonderfully good class;" and as "all quality, famously ribbed, long and deep, on a short leg, thoroughly furnished, and set off by a good but not delicate red coat." The entry of Devons at the last Christmas show was undoubtedly a very strong one, and hence the greater honour to the best of the breed.

PLATE VI.

THE WINGED MALLARD.

For killing common wild-ducks that frequent a river you have only to go a little before sunset, place yourself against any dark bush or bank, and there wait patiently, and out of sight, till they come down and fly round you, which they generally do several times before they drop into the stream or marshes. As wild-ducks most frequently betake themselves to the springs and rivers about dusk, you have no occasion to wait for them longer than just *the last hour, or half-hour before dark*; but if they have been much *disturbed* or *shot at* they will not always fly sufficiently early to be *seen*, though you may plainly *hear* the shrill and somewhat melancholy sound of their wings. If, however, the twilight is *followed by a full moon*, these birds will often withhold coming to the river *till the moon has completely risen*, in which case you might have to wait till an hour or two after dusk. But then the sport is considerably better, and will last much longer, with the

additional advantage of your having a continued good light for shooting. Wild-ducks generally come to the same place, unless they have been shot at, or there should be a change of wind and weather. It often happens that wild-ducks, dun-birds, and other fowl come down at night to large rivers, ponds, or lakes, which are so deeply surrounded by *floating* reeds that no one can approach the water; and the birds, aware of this, *do not lower their flight till they come near them*. So far from this *defying* the shooter, it is one of the finest opportunities that can be afforded for death and destruction. Let him sit in a small punt or canoe, fore and aft, among the *rushes*, where, towards dusk, he will be so completely hid that he may either shoot at birds flying within pistol shot, or wait for a good chance on the water, from whence (his boat being hid on each side, and *fore-shortened to the only point of view*) he will be pretty sure to escape the observation of the birds. This plan

may be resorted to where there are no rushes, such as under the bank of an island, or in a small brook near which there may be no hiding place. Here, however, nothing would surpass the French system, for those who have the means of adopting it. All these *stratagems* may become unnecessary in places which are strictly preserved, and where wild-fowl shooting is interspersed with

that of snipes and other birds; but as these places are now but rarely to be met with I have thought it necessary to dilate at considerable length in the foregoing instructions relative to *shooting wild-fowl*, which are now but seldom to be killed without care, patience, and good management.—*Hawker*.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

The half-yearly General Meeting took place at noon, on Monday, May 22, in Hanover-square, the President, Lord Vernon, in the chair. The attendance was very small compared with that at the General Meeting last December.

On the motion of the CHAIRMAN the Trustees and the Vice-presidents were re-elected.

The election of the Council was then proceeded with in the usual manner, and resulted in the unanimous adoption of the House List, including the following new members: Mr. J. Bowen Jones, Ensdon House, Shrewsbury, Salop; Mr. Jabez Turner, Haddon, Huntingdonshire; and Mr. W. H. Wakefield, Kendal, Westmoreland.

On the motion of Mr. MILLWARD, seconded by Mr. LIDDELL, M.P., Sir Watkin Williams Wynn, M.P., was elected President for the ensuing year.

The SECRETARY then read the following

REPORT OF THE COUNCIL.

The Council of the Royal Agricultural Society of England, in presenting their half-yearly report, have to state that since the last general meeting in December, 3 Governors and 37 members have died, and the names of 132 members have been removed from the list; on the other hand, 1 Governor and 210 members have been elected, so that the Society now consists of 72 Life Governors, 74 Annual Governors, 1,589 Life Members, 3,896 Annual Members, 17 Honorary Members, making a total of 5,648.

The accounts for the year 1870 have been examined and certified by the auditors and accountants of the Society, and have been published, together with the Oxford country-meeting account, in the last number of the *Journal*. The Council refer with satisfaction to these documents as showing the prosperous condition of the finances, notwithstanding the large and increasing sum annually spent in furthering the objects for which the Society was founded.

The ordinary income of the Society for the year 1870 exceeded the expenditure by £1,501 19s. 7d.; but the showyard receipts at Oxford fell short of the expenses by £2,504 4s. 8d., leaving a net deficiency on the year of £1,003 5s. 1d. The funded capital of the Society remains the same as at the last half-yearly meeting, namely, the permanent fund of £20,000 New Three per Cents., and the Reserve Show-fund of £4,612 7s. 8d. New Three per Cents. In addition, the sum of £3,000 lies on deposit with the Society's bankers, and the balance of the current account, on the 1st instant, was £3,363 7s. 3d., both these sums being available for defraying the expenses of the Wolverhampton Meeting.

During the past half-year the Council have sustained a heavy loss by the death of their valued colleague Lord Walsingham, a Vice-president of the Society; and they have also received, with much regret, the resignation of Mr. T. W. Bramston, as Trustee, and of Mr. W. Hasell, as Member of the Council. The vacancies thus created have been filled up by the election of Major-General Viscount Bridport as Trustee in the room of Mr. Bramston; by the election as Vice-president, of Lord Vernon in the room of the late Lord Walsingham, and of Sir Watkin W. Wynn, Bart., in the room of Viscount

Bridport; and by the election of the following Members of Council: Mr. R. H. Masfen, of Pendeford, Wolverhampton, in the room of Mr. W. Hasell; and Mr. J. Wells, of Booth Ferry, Howden, in the place of Lord Vernon.

Mr. Juhlin-Dannfelt, Superintendent of the Experimental Farm and Agricultural College at Stockholm, has been elected an Honorary Member of the Society.

The Wolverhampton Local Committee are making every exertion to promote the success of the Country-meeting, and have added to the Society's list prizes for Hunters and Roadsters, also for Carriage and Agricultural Horses, as well as for Dairy Cattle, for extra classes of Shropshire Sheep, and for Wool, Butter, and Cheese, amounting in all to upwards of £1,000.

The Farm-prize competition in connection with the Wolverhampton Meeting promises to equal in interest that of last year. The conditions of competition have not been varied more than was required by the addition of dairy prizes, but some of the regulations have been more clearly defined than they were previously. It has been decided that competing arable farms must be not less than 200 acres in extent; and that the dairy-farms be those on which not less than 30 cows are kept, and which are chiefly devoted to dairy purposes, including the sale of milk, either to towns or cheese factories. It has also been decided that every competitor must enter all the land in his occupation within the area of competition; and that a tenant-farmer, in order to be eligible to compete for the prizes offered, must pay a *bona-fide* rent for at least three-fourths of the land which he occupies. Twenty-three arable and four dairy-farms have been entered; and it is hoped that the awards of the Judges may be made known, as on the last occasion, at the General Meeting of Members held in the Show-yard.

The Council having considered in what manner they could best recognise the long services of Mr. Amos as a consulting engineer to the Society, and being desirous that he might still assist the Council with his advice, have appointed him Honorary Consulting Engineer to the Society; they have also presented him with the vote of thanks of the Council expressed on vellum and accompanied by the Society's gold medal.

The alteration in the Engineering staff of the Society consequent on the retirement of Mr. Amos has received the careful attention of the Council, and they have resolved that as the original appointment of the Consulting Engineer was the firm of Messrs. Easton and Amos, the responsibility of carrying on the business of the Society remains with the existing firm, viz., Messrs. Eastons, Amos, and Anderson.

The arrangements now in force for supplying the members of the Society with veterinary information, and with reports on diseases amongst cattle or other live stock, have also been discussed by the Council, with a view of ascertaining whether these arrangements may with advantage be modified.

The original purposes of the grant made by this Society to the Royal Veterinary College were two-fold:

First: to advance Veterinary Science by means of the instruction afforded to students at the College.

Second: to enable Members of this Society to obtain the best assistance and advice in case of the outbreak of disease amongst their stock.

In addition to these primary objects the Society hoped to present to its Members in general, information on Veterinary Science, by means of Lectures, Reports on Cases treated, and on measures to be adopted to prevent disease,

The first of these objects has scarcely been so satisfactorily performed as could be wished; the number of Veterinary Surgeons who have gone out from the College, and become established in the Country, have not so full a knowledge of the treatment of the diseases of Cattle, Sheep, and Pigs as to give confidence to their employers, though thoroughly competent as far as treatment of Horses is concerned, and generally possessing a higher standard of Scientific education than their predecessors.

Neither has the second object been satisfactorily attained. Members of the Society do not apply to the Veterinary Inspector in cases of disease so much as they might do, and complain that it is not easy in these cases to obtain the professional advice which they require.

Further than this, the Society does not receive from the College, or its Professors, the current information on diseases, or the suggestions for their cure and prevention which the Council think ought to be at their service.

They have therefore decided that the conditions on which the grant should be made, shall be as follows:

That the grant to the College shall be specially devoted to the advancement of Veterinary science as applied to the diseases of Cattle, Sheep, and Pigs.

That it is desirable that the Governors of the Veterinary College should appoint an efficient assistant to the Professor of Cattle pathology, in order that he may more satisfactorily attend to the applications of Members of the Society; and by lectures and practical treatment of cattle diseases at the College give more thorough instruction to the students on these subjects, and further that the Professor should present to the Council quarterly reports on matters connected with diseases of cattle, sheep, and pigs, and on any question of Veterinary Science which may be of interest to Agriculturists.

A deputation of the Governors of the Royal Veterinary College has therefore been invited to meet the Veterinary Committee of the Council, to discuss the measures which have been considered necessary to be adopted, in order to render the Cattle Department of the Royal Veterinary College really efficient.

The Council have noted with great satisfaction that the Members of the Society avail themselves of their Chemical privileges in increasing numbers; and they have been much gratified at the general testimony as to the value of Dr. Voelcker's Quarterly Reports on inferior and adulterated manures and feeding stuffs. Were other evidence wanting, the fact that the Council of the Royal Agricultural Society of Ireland have determined to adopt the same course would be sufficient to indicate that these reports are considered of great value by the Agricultural community.

The case of *Bradburn v. The Royal Agricultural Society* is expected to be tried during the month of June in Westminster Hall.

Four out of nine candidates who had entered their names for competition presented themselves for examination for the Society's educational prizes and certificate. Of these three were under the age of 21.

Mr. G. P. Smith, of the Royal Agricultural College, Cirencester, passed an excellent examination in the Science and Practice of Agriculture and in Book-keeping, and he is also entitled to the prizes for Chemistry and Land Surveying. Mr. H. G. Ohry, also of the Royal Agricultural College, Cirencester, being over age does not receive a prize, although he stands first for Geology.

One candidate only entered for Anatomy and Animal Physiology, and the examiner did not think him worthy of a prize. Three candidates entered for Botany, and all failed.

The result of the examination is that Mr. Smith becomes a life member of the Society, and obtains a first-class certificate, the first prize £25, and the following prizes for proficiency in special subjects: Science and practice of agriculture, £10; chemistry, £10; book-keeping, £10; land surveying, £5. Mr. Ohry gains a first-class certificate, and becomes a life member of the Society. Mr. T. S. Minton obtains a second-class certificate.

The Committee cannot but express their regret that more candidates have not come forward for the prize offered, and that out of the number entered, more than half did not present themselves for examination.

By Order of the Council,

H. M. JENKINS, Secretary.

Sir J. H. MAXWELL moved its adoption. He congratulated the meeting that while three governors and thirty-seven members had died within the year, and 132 had been removed from the list, one governor and 210 members had been elected during the same period, showing an addition of thirty-nine members to the total number. It was satisfactory also to know that the income of the year exceeded the expenditure, while there could be no doubt that the expenditure was of a satisfactory nature. They must all miss on that occasion the genial face of the late Lord Walsingham (Hear, hear), who was well known as having been for a long time one of the warmest supporters of the Society, and also one of the most successful competitors for the prizes for sheep. The Council had indeed sustained a heavy loss by the death of their late excellent colleague. He could not doubt that the Wolverhampton meeting would prove a most satisfactory one, on account of the character of the locality and the convenience of railway access; and he hoped the meeting in the Principality, to be held in the year of Sir Watkin's presidency, would also prove a very successful one.

Mr. MEECH, in seconding the motion, said he had felt from the first that that Society was conferring, as he believed it still was, great benefits on British agriculture. Its publications would have alone entitled it to the thanks of the agricultural community; while the annual shows, by causing comparisons to be made between various breeds of stock and various kinds of machinery had done, a great deal towards removing that prejudice self-esteem and pride which were to be found among agriculturists as well as other classes of the community. As regarded the motto of the Society "Practice with Science," it was impossible to deny that one great difficulty of that Society had been that it had had to contend against a want of education among agriculturists, and a sort of abhorrence on the part of many practical farmers of the very name of science. This had compelled the Council to be very cautious in its movements, but they had at length succeeded in their endeavours to bring science to bear fully upon agriculture. Witness the lectures and papers of Professor Voelcker, which were of very great importance and value to the interests of agriculture (Hear, hear). Another evidence of progress was furnished by the Royal Agricultural College at Cirencester, which was now somewhat improved in the estimation of practical farmers. He could not help remarking that the number of members of that Society was so small as to be discreditable to British agriculture. There were in England and Wales about 300,000 farmers, and it appeared that only about 6,000, or one and a half per cent., could afford a pound a year to belong to that Society, or else only that number were desirous of gaining the knowledge which was communicated in the admirable papers published in the *Journal*. He (Mr. Mechi) believed that British agriculture was now entering upon a new phase. He believed that the Education Bill which was passed last session would indirectly so change the position of British farmers as regarded education and science within the next half century, that if some of them could come back again—he almost wished they could on that account—they would find agriculture presenting an aspect altogether different from that which it now wore.

Mr. W. BOTLEY, in supporting the motion, expressed his satisfaction with the contents of the report.

Dr. CRISP said Mr. Mechi had remarked that the number of members of that Society was not as great as it ought to be. Everybody knew that, and everybody felt that there must be something wrong and rotten at the very foundation of the Society, seeing that it had under 6,000 members. It behoved them to ask what was wrong—why it was that that Society was not more popular? It was clear to him that before it could become popular there must be a revision of the Charter, and they must be enabled to introduce many matters intimately connected with agriculture, and with the welfare of the people, the exclusion of which had been a clog and exceedingly detrimental to the advancement of agricultural science. He had found that during the first decennial period of the Society's career, that is from 1840 to 1851, the number of members was 60,546 and that during the last ten years the number was only 55,067, showing a diminution of 5,479 in the latter as compared with the former (Hear, hear). At the same time he found that the number of members of Chambers of Agriculture was 18,000. One great reason, he believed, why they had not progressed as a society was, that the Charter had

crippled them, so that they had been unable to touch upon matters which were most important in reference to the advancement of agriculture. He must, however, now call attention to the fact, that the Council had positively deviated from the Charter. In some respects they had, in fact, never adhered to it; they had broken their own laws, and might be called poachers, having gone upon manors which did not belong to them. At the last meeting he spoke particularly of improvements which might and should be effected in the *Journal*, remarking that the members ought to know what was going on in other countries, such as Germany and America; and that if the abstract were given of such matters, it might convey many useful hints to farmers in this kingdom. What did the Charter say with regard to the objects of the Society? The Charter said that the Society was: "First, to embody such information contained in agricultural publications, and in other scientific works as has been proved by practical experience to be useful to the cultivators of the soil; second, to correspond with agricultural, horticultural, and other scientific societies, both at home and abroad, and to select from such correspondence all information which, according to the opinion of the Society, may be likely to lead to practical benefit in the cultivation of the soil." Now, that had never been done. Having looked very carefully through the *Journals*, he had never seen an abstract of any single foreign publication. It was all very well for gentlemen to visit Belgium or some other country on a sort of holiday tour; but he believed that if the published results of practical knowledge abroad were put into a small compass and concentrated as it were in the Society's *Journal*, that would be of infinitely more service than many of the papers which had appeared there. Another object stated in the Charter was "to collect information with regard to the management of woods, plantations, and fences, and on every other subject connected with rural improvement." Now, how had that been carried out? There had been a constant avoidance there of the question of the Game Laws, which he had not the slightest hesitation in saying had been very injurious both to tenant farmers and to agricultural labourers. If that were a proper occasion for doing so he could adduce evidence which would convince any one that what he said on that point was correct. How could they properly investigate "the management of woods, plantations, and fences," without saying something about hares and rabbits? or how could cultivation be properly carried on where game abounded as it did in many places? He believed that the connection between that Society and the Veterinary College had been extremely detrimental to the veterinary profession and to veterinary science. Let him explain what he meant. Although they did not cull from other journals, nearly all persons in the scientific world read their *Journal*. In reports in their *Journal* mention was made of the worm *Filaria Bronchialis* (he must know something about that worm, for he was the first to speak about it in this country) as very destructive to lambs. There was no such thing as the *Filaria Bronchialis*; that was altogether a misnomer. The worm that injured and destroyed the lamb was the *Strongylus Filaria*—a different genus altogether. You might as well call a badger a bear, or a bear a lion, as call the worm in question *Filaria Bronchialis*. It might be said that that was a matter of no importance; but he presumed that the Council wished the *Journal* to stand well before the scientific world, and it could not do that while it contained such a monstrous misnomer. Another object of the Society described in the Charter was "to promote the comfort and welfare of labourers." He did not see how the comfort and welfare of labourers could be promoted in many districts while the Game-laws remained in their present form. He might remark that, being anxious to ascertain beforehand whether he would be allowed to introduce the subject of the Game-laws, he applied to the Secretary for information, and he was told in effect that he might do so by a side-wind, advocating a remission of the Charter, and giving his reasons for so doing. He would not enter into the matter then, but he had desired to bring the subject before the meeting, and secure a discussion, in order that at some future time the Council might propose a revision of the Charter. It was, he repeated, impossible that the comfort and welfare of labourers could be promoted in districts where labourers were corrupted through the operations of the Game-laws. He had known little children sent out to get possession of the pheasants' eggs, for which a shilling would be obtained, and

what must be the ultimate destination of children who were led to steal, and liable to the demoralization of a prison? Again, it seemed to him a great hardship to farmers that they should be obliged to keep poachers while they were in prison, besides paying the expense of prosecutions. He knew that that subject was not a very pleasant one, and, as he was precluded from entering into it on that occasion, he should take another opportunity of doing so in a different way. He had observed that he considered the connection between that Society and the Veterinary College was detrimental to veterinary science. In France a veterinary student could not pass his examination under four years; in this country a student might pass at the end of one year, and all kinds of animals might then pass through his hands. It appeared to him a great stigma upon that Society that while £200 a-year was paid by it to the Veterinary College, on the condition that the members should have their horses and pigs examined—a matter about which nothing was said in the Charter, and when £100 had been granted towards a memorial to his late Royal Highness the Prince Consort, when an application was recently made for a grant in aid of the French Farmers' Seed Fund, it was refused by the Council, on the ground that compliance would be against the Charter. He thought it would require a good deal of hair-splitting to defend such a distinction, or to show why if it were right to grant £100 for the memorial, it would have been wrong to grant £500 for the Seed Fund! Feeling great interest in the subject of the Game-laws, and in scientific matters connected with agriculture, he had ventured to make those remarks in the hope that they would hereafter be discussed at a much fuller meeting.

Sir WALTER STIRLING said he thought they were much indebted to Dr. Crisp for the remarks which he had just made. He was inclined to think that there must be some impediment in the Charter which was exceedingly detrimental to the objects and purposes of that Society, for it was impossible for him to suppose, with his knowledge of the noble lord in the chair, and of some of his predecessors—he was now alluding to those previous presidents who were not mere honorary holders of that office, but men who had, like his lordship, a vast amount of practical knowledge and experience of agriculture—it was, he said, impossible for him to suppose that matters closely connected with the interests of agriculture had been overlooked for one moment by those noblemen and gentlemen. Therefore, when he came to compare the remarks of Dr. Crisp with what they had daily seen before their eyes—a most important society, which had sprung up under their very noses, dealing with practical subjects of the day that concerned farmers and agriculture—he must say that, being anxious at all times to catch knowledge as it flew, on those important subjects he found that he had there nothing to do. It was not there that he had to look for information, although the *Journal* was, he admitted, valuable. He had no wish to blame anyone, but he could not overlook the fact that an important body had lately sprung up which embraced a number of subjects which were not dealt with there, and he was happy to see that the body to which he alluded was represented on that occasion by Sir George Jenkinson. What he had mentioned might lead anyone to conclude that that was a sort of close corporation, and that when any important business connected with agriculture had to be done they must look outside; and he hoped that next year an opportunity would be afforded for altering the Charter so as to remedy that defect. Although there were no doubt good substantial reasons for discontinuing the dinner, yet he could not but lament its discontinuance. Formerly he believed it was customary at the dinner for the President of the day to make some interesting observations on the events of the past year, and that materially helped to render the dinner a successful gathering. As regarded the Game-laws and other matters which bordered on politics, it was no doubt desirable that questions which involved hardship and vexation to tenant-farmers should receive some attention in that Society. Among such matters was included the question of Local Taxation, which Sir Massey Lopes had recently introduced with so much ability in the House of Commons. He had not made these remarks in a spirit of grumbling, but because he really thought that what Dr. Crisp had brought forward was worthy of the consideration of the Council.

Sir G. JENKINSON, M.P., said, having been personally alluded to by the last speaker, he wished to say one or two words. There was one statement of Dr. Crisp which he would not like to go forth without any comment; he referred to that

gentleman's remark that it would be impossible to "promote the comfort and welfare of labourers" so long as the Game-laws remained.

Dr. CRISP : In certain districts.

Sir G. JENKINSON said on that question he must be allowed to remark that no one had more consistently or persistently advocated an alteration of the Game-laws than he had done; but, at the same time, he deprecated the introduction of an element which would only increase the difficulties of that question, and aggravate the ill-feeling which existed between the classes who were interested. There had been elsewhere a great deal of sensational nonsense uttered in talking about the poacher. The poacher was not an agricultural labourer, but the occupant of a large town. Persons who lived in towns went about in gangs, and made the real poachers. He did not believe that as a rule agricultural labourers could ever be called poachers; and as to their children being sent out to collect pheasants' eggs, that was quite a myth.

The CHAIRMAN said he should be glad if Sir George would not enter into that question, too much having been said already in reference to the Game-laws (Hear, hear).

Sir G. JENKINSON said as the statement to which he was alluding would go forth to every country in Europe, he felt bound to correct it. He did not want to enter into the question of the Game-laws, but he must enter his protest against the assumptions that agricultural labourers were poachers, and that their children were sent out to collect pheasants' eggs. So far as his experience went—and he had had a considerable amount of experience—neither of those assumptions would bear investigation. He would add that when the new Education Act had come into full operation, what with their attendance at school and their employment in agriculture, the sons of agricultural labourers would be so much occupied that even if their parents should be dishonestly disposed they would have no time for such practices as Dr. Crisp had supposed to exist.

Dr. CRISP said he could verify his statement and would do so.

Mr. LIDDELL, M.P., had no wish to detain the meeting, but must observe that, with the tacit permission of the Chairman, matters had crept into the discussion that day, the introduction of which might prove a very inconvenient precedent. It might be quite right and proper on a suitable occasion to consider whether or not it was desirable that the Charter should be altered; but he wished to point out that at the present time they were absolutely precluded—it was, in fact, a condition on which the Sovereign gave them the Charter—from discussing certain subjects. Paragraph 4 of the Charter was as follows: "And know ye further, that in granting this our Royal Charter to the said Royal Agricultural Society of England, we do hereby declare it to be our full and entire will and pleasure that we extend our Royal protection to its national objects, under the condition that a principle of its constitution shall be the total exclusion of all questions at its meetings, or in its proceedings, of a political tendency, or having reference to measures pending, or to be brought forward in either of our Houses of Parliament, which no resolution, bye-law, or other enactment of the said body politic and corporate, shall on any account or pretence whatever be at any time allowed to infringe."

Dr. CRISP observed that that stipulation had been constantly broken.

Mr. LIDDELL, M.P., continued: Until the Charter had been reconsidered and altered he must, as a member of the Council, deprecate the introduction of subjects the discussion of which would, he repeated, form an inconvenient precedent, and be a distinct violation of the terms of the Charter; and he hoped that until the Charter had been altered such subjects would be excluded from their deliberations.

The CHAIRMAN said: Gentlemen, it is always a very healthy thing for the Council to be brought face to face with the constituents whom they represent, and to receive the measure either of censure or of praise which, in the opinion of the agricultural public, they deserve. I must say with regard to the picture drawn by Dr. Crisp of the condition of his Society, that the statistical comparison drawn by him between two periods of 10 years does not convey the same impression to my mind as it does to his. I think it would be far more satisfactory if he were to compare one period with another more directly antecedent to the present for the purpose of making comparison, because I cannot tell what causes may have operated in the earlier days of this Society; though I think I may fairly assume that the existence of Farmers' Clubs and

of Chambers of Agriculture and other Societies has tended to diminish the amount of support accorded to this Society. If you compare the number of subscribers in December, 1869, with the number in December, 1870, you will find that there is a gain of 12, while if you compare the number in May, 1870, with the number in May, 1871, you will find a gain of 210; so that it is quite clear that an increase has recently been going on. I quite admit, however, that in the case of a great Society like this—a Society which has, I may say, created agriculture in this country, and is still doing so much to improve it in matters of detail—it is a surprising thing that it should not be more largely supported than it is. Mr. Liddell has anticipated some remarks which I was about to make. The discussion to-day has, I believe, gone beyond the strict limits of what is authorized by the Charter, and it appears to me that the proper course for a gentleman who holds such views as Dr. Crisp does is, not to write to a newspaper to complain that certain subjects which are unpalatable to the Council are not allowed to be introduced, but to ask the Society to entertain the question whether the Charter should not be revised; and until that question has been decided in one way or other, the subject of the Game-laws should not, I think, be introduced at a meeting like this. At the same time I must remark that the position of the Chairman on an occasion like the present is not a very easy one. I see myself a very great distinction between Game-laws and game, game being an agricultural question and Game-laws a political one. I did not, therefore, feel it to be within my province to stop the discussion which has taken place, but I am glad that it has not gone beyond the limits which it reached. I must say that I was very much afraid it would go further, and I am obliged to those gentlemen who met my wishes by not entering more fully into the question. Now it appears to me that there is one very grave reason why this Society could not undertake to deal with those questions which have been taken up by Chambers of Agriculture, and that is the practical one that the business of the Society occupies for several days in each month the close attention of gentlemen who come from all parts of England; and I have never been associated with a body of gentlemen who more thoroughly and conscientiously performed their duty. The greatest attention is paid by the Council to the opinions of agriculturists outside; and if you were to tack on to their duties the consideration of such questions as those which occupy the attention of the Chambers of Agriculture, coming as the members of the Council do from all parts of England, I cannot but think that you would put on them an amount of work under the pressure of which they would break down. If the question of an alteration of the Charter is to be raised—and my opinion a few years ago was greatly in favour of altering it—I should certainly not wish to see it altered in such a way as to lead to the including of those questions which are now so ably, satisfactorily, and carefully dealt with by the Chambers of Agriculture. As a member of the Council I must express my deep regret at the loss which we have sustained by the death of Lord Walsingham. That event has already been so feelingly alluded to by Sir John Maxwell that I can add nothing to the sentiments to which he has given utterance; but I cannot help expressing my own deep regret at having lost a very valuable colleague and a very good personal friend. This, gentlemen, is the last occasion on which I can have the honour of addressing you from this chair. I beg to offer my personal thanks to you for having supported me in the way that you have done; and I will add that I fully share the feeling which has been expressed in this room, of gratification that the Principality of Wales will be represented next year by a President who is worthy of it—I mean Sir Watkin Williams Wynn.

The motion for adopting the Report was then put and carried.

Mr. W. BOTLY moved a vote of thanks to the auditors.

Mr. ROBERTS, in seconding the motion, alluding to the last paragraph in the Report, where the Council say they "cannot but express their regret that more candidates have not come forward for the prize offered, and that out of the number entered more than half did not present themselves for examination," said he hoped that regret would not lead to an abandonment of the plan of offering prizes, as the comparative failure of the examinations proved how much such a stimulus was needed, adding that, if the offering of prizes for implements had ceased after the first Oxford meeting, agriculture would have suffered great loss in

consequence. It was, he added, an open question whether the best way for a young man to learn farming was to live with a farmer, and daily observe with him the operations of husbandry, or to go to an agricultural college; but in his opinion the latter course was on the whole the best. He thought something should be done to afford an agricultural education to the children of agricultural labourers, and it occurred to him that the most inexpensive and effectual mode of accomplishing that object would be for that society to offer prizes to persons in training for the office of village schoolmasters for a knowledge of agriculture and the power of teaching it. Children would always take an interest in Lessons on Agriculture if they saw a practical application of them near the school. He did not see why the Society should maintain its connection with the Veterinary College, while the Council abstained from forming any connection with an Agricultural College.

The CHAIRMAN having asked whether any member had any remark to make, or any suggestion to offer, which might be referred to the Council, and there being no response,

Sir WATKIN W. WYNN moved a vote thanks to the President, observing that he could testify from observation to the great efficiency his lordship had displayed, and his kindness and urbanity towards all with whom he had come in contact. A great deal of what had been said that day seemed to him (Sir Watkin) well worthy of the consideration of the Council;

and, perhaps, if he were chairman next year, he might have an opportunity of causing some of the subjects to be brought forward for discussion. It was to be expected that certain rules which were established in former times should not be as applicable to the present times as they were to those in which they were made. As regarded politics there was formerly the very grave question of the Corn-laws. Happily that question was dead; there was, he believed, now a very strong feeling among the members of the Council and among the members of the Society generally, that the composition of the Council was so mixed, including, as it did, landed proprietors and tenant-farmers, that the interests of both were sure to be fairly represented, while they could always obtain the advice of the best implement makers and of all whose aid was likely to be useful to the Society.

Sir WALTER STIRLING, in seconding the motion, said he entertained such a strong sense of the efficiency of the President, that he could almost wish his tenure of office were permanent; but as that was not the case, all he could do was to express a hope that their chairman might live for ever (laughter).

The motion having been put by Sir WATKIN W. WYNN, and carried by acclamation,

Lord VERNON said: Gentlemen, I thank you very sincerely for the honour that you have done me.

The meeting then separated.

FRAMLINGHAM FARMERS' CLUB.

THE ANALYSIS OF ARTIFICIAL MANURES.

At the last meeting, Mr. D. Smith, Farham, one of the Vice-Presidents of the Club, in the chair,

Mr. GEO. LING (Bedfield) said: It is of the utmost importance the articles we buy for our farms should be delivered in a state of integrity, and that should adulteration be carried on we should have the means at hand for detecting it. It is unfortunately true that few, if any, of us are sufficiently proficient in chemistry to apply tests ourselves, neither do we possess the exceedingly delicate and expensive apparatus used in analysis, but now we have a plan by which we may protect ourselves if we desire to do so. If our Societies do their work, and farmers will co-operate heartily with them, dishonest dealers will soon be driven from the market and the manure trade will be left in the hands of honest men. There is a great want of knowledge on the subject of vegetable nutrition, and what constitutes money's worth in the shape of artificial manures. An instance of this is the effort made in several localities, in some cases at a large outlay, to prepare a so-called guano from sewage by precipitation. Town authorities are anxious to get rid of their sewage, and when led to believe they can do so at a profit by such processes, have been induced to enter upon schemes altogether wanting in sound principles. However, the sale of such products does not meet with the success anticipated by the promoters. Professor Sibson declares, "It may be accepted as a chemical impossibility ever to prepare, by precipitation from sewage, a manure which shall repay its cost of production." It is a pity that so valuable a fertiliser should be thrown away, but so far no process that I have heard of has been discovered for utilizing the sewage of our towns, and, except when used for irrigation, it is lost. Moule's earth closet system is a step in the right direction, but has not been adopted to any great extent. There can be no question of the manuring value of human excrements, and I believe it is quite possible to prepare from them a manure, but this must be done before they are mixed with water, since, when this has once been done, owing to the valuable ingredients, such as ammonia, potash, and other salts being soluble, and there being no practical means of precipitating them again, such matter is worthless except for irrigation. The means for obtaining good artificial manures have fully kept pace with the improvement in the articles themselves, for owing to the present facilities of transport, and a great extension of the practice of appointing agents by distant manufacturers, every market is abundantly supplied—so much so, indeed, as to make it difficult on the part of buyers to know which to choose. As in other branches of industry, competition has been of considerable benefit to con-

sumers, both in quality and price; but competition may be carried a little too far, and our chemist, Professor Sibson, has warned us against "the reckless competition sometimes heard of."

Perhaps the manure that holds the highest place in public estimation is Peruvian guano. Since its first introduction in 1840 it has been gradually but surely establishing itself in public favour, and notwithstanding its high price, it is still lately a most useful and reliable manure. Moreover it was really cheap at the price, but the Peruvian Government, by their agents in this country, frequently raised the price, and this coupled with the fact that the Chincha Islands were exhausted, had a depressing effect on the trade. A further change has been made lately in the price of the new importations, which are from the Guanape Island (not far from the old Chincha), and trade is again brisk. The new guano varies much in quality, some of it is very good, and some is very indifferent. It contains less ammonia than the Chincha Island guano, which is accounted for by the fact of there being more moisture in the latitude of the Guanape Island. However, we must take it as it comes, for the Peruvian Government guarantees nothing—they say "here is the guano at so much a ton, take it or leave it," and we go on taking it; but how much more satisfactory it would be to the dealer, and how very much it would assist the purchaser, if some sort of a guarantee were given. However, with all its faults, genuine guano will always be a valuable and favourite manure; but care must be taken to see it is genuine as imported, and that it is the importation of the agents of the Peruvian Government. Markets are said to abound with inferior and adulterated samples; and if adulterated, it is thoroughly done; it would not pay to half do it, or mix on a small scale. Our Chamber will help us to see we are not done in this article. Nitrates of soda, another valuable fertiliser, is often shamefully adulterated with salt, which it somewhat resembles, or with sulphate of magnesia and other substances, but it may be very easily tested. I have heard as much as 45 per cent. of foreign matter has been recently found in a sample, sold at £17 a ton, and that foreign matter was common salt, so it is high time to be careful. Some of us are very fond of a bargain, but an adulterated article must be dear at any price. The analysis of nitrates of soda is a simple matter, easily determined, and the results indisputable. I wish the same could be said of analysis of phosphatic manures. The trade in these as superphosphate—nitrophosphate—the various forms of bone manures, &c., is enormous, and analyses are constantly being made, but there appears to be so many processes adopted, and they vary so much in the results that it seems we have as yet no reliable system. But

even if the analysis be correct, it is not a complete one, for many special manures, such as those prepared for mangolds, potatoes, cereals, &c., are exceedingly rich in elements that are not looked for, and consequently not determined and valued in what I suppose to be the "simple analysis" provided by our Chamber of Agriculture; and there is no remedy for this, unless the analyses are far more elaborate and costly than those ordinarily made—nevertheless, however simple the analysis might be in the hands of a skillful chemist, it would inevitably lead to the detection of any serious fraud. The simplest form of manufactured manure is superphosphate of lime. It is the custom in some parts to buy and sell this article at so much per cent. of soluble phosphate. Now, this seems right enough, and so it would be, if chemists were agreed upon a plan, and the superphosphate, when once made, retained its original form, and did not alter almost daily in its chemical combinations. I will do my best to explain this, and, to do so, I must say a few words about soluble phosphate. Phosphate of lime, as it exists in nature, in bones, in coprolites, is insoluble, and consists of three parts of lime and one part of phosphoric acid. And, to make it soluble, it is usual to remove a part of the lime by sulphuric acid. This is the process adopted by manufacturers of artificial manures; they thus get a *super-phosphate*: that is, a substance with a superabundance, or greater proportion of phosphoric acid than it originally had; it has lost part of its lime, and, if newly made, the analyst could find every particle of it soluble; but it has this strange peculiarity, it soon begins to go back, as it is called, and a part of it becomes not soluble in water, but it is now in a very different state to the original insoluble phosphate. Now, if an old sample be examined, we shall find, in all probability, four or five per cent. has become redosed or precipitated, or has gone back; and while the chemist would find so many per cent. less soluble, and value it accordingly, the manure is intrinsically better than when first made. So if this be correct, and I have good authorities on the matter, you will clearly understand that buying, or rather selling superphosphate by analysis, is not so simple a matter as we supposed, and is rather a one-sided affair. Some of the leading chemists are now coming round to this opinion, and are making their analyses (if a little more costly) much more satisfactory to all parties, and instead of ignoring this precipitated phosphate, or estimating it as insoluble, now give it its true value. And now we are considering this soluble phosphate, we will see what becomes of it when we apply it to our fields; it at once goes back, is precipitated, or becomes insoluble again, just as it does by long keeping. I have read that this can be demonstrated very clearly by filling a tube with earth and pouring into it a solution of soluble phosphate; it will become insoluble, and we may wash it as much as we please by pouring water through it, but none will come through. It has taken that form in which it must be before the plant can take it up—it is precipitated. Being rather curious on this point and desirous of proving it in another way, I determined to try an experiment, so I mixed one part of turnip manure, rich in soluble phosphate, with 25 parts of moist earth from one of my fields, and when dry enough I sent a carefully-sifted and well-mixed sample for analysis. The report was, "No soluble phosphate to be found." We have seen that if we have a newly-made manure we get it with the full amount of soluble, but very often it is damp, pasty, and lumpy. This being conceded, is it not very clear that we farmers have something else to require beside a guaranteed analysis? I have myself long felt it to be very important to have manure in condition, and for my own use prefer a dry well-seasoned manure, even if it shows a poorer analysis in soluble; indeed, I have frequently used year-old turnip manure, and have never had reason to complain of the result. Dr. Voelcker, the chemist to the Royal Agricultural Society, has given the result of his extensive experience as follows: "I have long been familiar with the fact that a newly-made superphosphate, though richer in soluble phosphate of lime than will usually be found after keeping three or four months, does not act as beneficially in the field as the latter; it is, therefore, plain that a superphosphate which in keeping has gone back, has not really become depreciated in value." Again, the Doctor writes: "A newly-made superphosphate, when rich in soluble phosphates, however, is very apt to become pasty, and cannot be uniformly incorporated with the soil, nor applied to it so economically as a well-made powdery article such as is produced when superphosphate is

kept for a period of three or four months, or longer, and then passed through a disintegrator or sifting apparatus. Such a manure, when made of mineral phosphate, usually contains from four to five per cent. less soluble phosphate than it did when newly-made; nevertheless it is practically better and practically worth more money than in its newly-made state." He goes on to say: "My impression is farmers will find out, in course of time, that the quality of even mineral superphosphate cannot be solely determined by the amount of soluble which the sample contains." Professor Sibeon, writing on this subject, says: "It should be added that the agricultural value of the phosphate so precipitated is but little, if at all, inferior to soluble phosphate itself, since it occurs in a state of chemical division, and is doubtless of a similar character to that which the soluble phosphate assumes after remaining a short time in the soil, and, doubtless, has as good an effect on the crops to which it is applied." With such testimony, I think, we may rest satisfied that manures are not depreciated in value by keeping, but rather the reverse; therefore, allow me strongly to recommend you to get your manures some little time before they are wanted, and thereby ensure condition (if they are properly manufactured), and not wait, as is too often the case, till it is actually wanted for use, and so run the risk of receiving it in bad condition from being newly-made, or, perhaps, greatly inconvenienced by its non-arrival when wanted. Professor Sibeon, writing on this subject, says: "A good mechanical condition will often determine the practical superiority between two or more manures otherwise alike," and we shall be satisfied that such must needs be the case if we reflect, that the same quantity of soluble phosphate will better nourish a turnip plant if distributed all around it in such a manner that the whole of its root fibres can operate upon it, than if placed in lumps in a few adjacent spots where comparatively few of its fibres can reach it, and in the latter case the few roots so supplied may get too much, and thus receive injury for a time, instead of benefit. You are all aware of what great importance the mechanical conditions of our fields is, and what influence it has on the action of artificial manure, for a given bulk of earth that is well prepared will admit of a greater number of the roots and fibres of plants penetrating through its substance than when the same is in coarse unbroken clods, as in a badly-prepared field. In the former every portion of the soil adjacent to the plants of a crop will be intermingled with roots, which will make use of every particle of manure within reach; whereas, in the badly-prepared field a great part of the manure applied gets beyond the reach of the roots, and is thus, for the time being, useless. There are many difficulties attending analyses. I will mention a few of them, and the causes of their occasionally being unreliable. First, the mode of selecting the sample to be sent. This is of the first importance. Professor Sibeon writes: "In taking samples from bulks every care should be taken to obtain an average sample; this is best effected by taking several (the more the better), portions from different parts of the surface and interior of the mass, and thoroughly intermixing the whole. The operation should then be repeated proportionately till a manageable sample is obtained. Of this, three to four ounces is sufficient to send for analysis." The portion actually examined by the chemist will only weigh a few grains—say as much as will lie on a shilling, so you will readily see that there must be some care used in taking a fair sample. I have here some analyses of a cargo of bone ash that came in last year. The samples were drawn from different parts of the cargo and sent to Professor Newlands. Messrs. Evans and Jones, and Dr. Voelcker, the lowest gave 75½ per cent. phosphate of lime, the highest 78½. The cargo was sold by analysis, that is, so much for each unit, so the difference would be a matter of great importance to both buyer and seller. Again, I understand that there are various methods of estimating the amount of phosphate and other component parts of manures, and it seems that the results of these processes vary very much. Many of you may have seen a letter in the *Mark Lane Express* a few weeks since, of the date April 10th. The letter showed that a sample of ordinary superphosphate of lime was taken and reduced to a fine state of division, and, to insure greater uniformity, was passed several times through a fine sieve. Seven small tins were then filled from the sifted sample and sealed up in the presence of a disinterested witness. The tins were then forwarded to seven different chemists, and in due course the following results were obtained:—

AMOUNT OF SOLUBLE PHOSPHATE IN A SAMPLE MANURE
RECEIVED FROM

No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.
25.46	19.48	24.43	20.33	22.47	19.81	24.52

From the above you will see there is a difference of nearly 6 per cent. in the amount of soluble phosphate in the different analyses, representing a value of *at least 18s. per ton*. The chemists were all well-known men, three of them respectively chemists to the Agricultural Societies of England, Scotland, and Ireland; three of the others, men whose analyses are always taken in commercial transactions. I also have a letter from Mr. Francis Sutton, a well-known analytical chemist of Norwich, who, writing to the *Chemical News*, says: "I would again urge upon those concerned to do away, if possible, with the disgraceful distinction of 'buyer's' and 'seller's' analysts. A case occurred to myself a few days ago, in which a sample was well prepared, and divided into two parts, then sealed up in tins, and sent to two well-known men. One reported 21.39 per cent. soluble phosphate; the other 26.36. The low report I proved most conclusively to be the correct one. The manure, however, was sold by the analysis which gave 5 per cent. more, and consequently the buyer was requested to pay 15s. per ton more for it than it was worth." Professor Sibson, in one of his circulars, observes, "Chemists should not depute to their pupils a determination or analysis that may perhaps affect seriously the standing of an honest firm." The fact is the work has so increased, and there are so many societies cropping up, and so few really first-rate analysts whose opinions would be taken as final, that they must be somewhat overdone with work, and have far more than they can possibly do themselves. The increase in the number of analyses made is something enormous. Dr. Voelcker reports to the Royal Agricultural Society, that during the year 1870 no less than 580 samples were sent to him by its members alone—115 over 1869, to say nothing of those sent by others from all parts of the world. However, I believe it is admitted that there does not exist a more conscientious body of professional men, and, as a rule, their work is well and carefully done; but when such exceptions as have been mentioned do occur, they are indeed serious. I think you will now readily agree with me that the exact value of a manure cannot be told by judging solely of its composition as revealed by analysis, as so much depends on its mechanical texture. So, on the other hand, we cannot arrive at its real value without the aid of chemists, and the amount of good they have done in exposing frauds is incalculable; and I rejoice to find our Chamber has taken steps to avail itself of their assistance. The difficulties here alluded to I hope may be overcome, and I am satisfied that manufacturers, dealers, and farmers will all be benefited. It is only the fraudulent trader who has anything to fear from the fullest investigation chemical science can devise. If there be fraud about, we have the remedy in our own hands. Facilities for protecting ourselves are brought to our doors, and if we don't avail ourselves of them, who is to blame? I believe it has always been difficult to excite much interest in us farmers for any public object, as, for instance, the malt-tax, which we have never taken in hand with that unity which deserves success; and at the present time look at our Chamber of Agriculture! it is perfectly astonishing how few of us avail ourselves of the privileges of membership, and of supporting, by our presence at its meetings, the various and important subjects there discussed. But the question of analysis of manures and soils so directly appeals to the self-interest of every farmer, and the fee that members are charged for such an examination as will indicate whether we have a genuine article is so low, that I anticipate a great increase of members, especially now the entrance fee is abolished. Although, perhaps, you would not individually avail yourselves of analysis in the purchase of manures or cake to the extent it would be your interest to do, yet many would, and thereby increase your knowledge of the nature of manures and their action in the soil. You would not then be tempted into purchasing any of those positively bad manures, with high-flown names, so common in the market a few years ago, and which do much mischief, not only by fleecing those who buy them, but by encouraging a disbelief in the value of other really valuable manures.

Mr. G. JEAFFRESON moved a vote of thanks to Mr. Ling. No laboratory analysis could be thoroughly satisfactory of itself; agriculturists must exert themselves to supplement such analysis by practical results. This was a point he had pre-

viously alluded to with regard to chemical analysis of food, viz., that it was not the amount of nourishment in the food, but what the stomach could take out of it. So with reference to this laboratory analysis, they must set about to find what the soil could get out of the material which was placed upon it, and they must not depend upon the chemist alone to do all the work. On the contrary, they must supplement and correct the labours of the chemist by correct and careful observation as to the action upon the plant. This could be best done by noting the appearances of the crop from time to time. Let them not go to the field at one time and say, "That plant looks remarkably well," and a week after say, "It does not look so well." He would recommend them to write down their impressions from time to time as they visited the field without looking at what they had previously written, and then after a certain period, at the end of two months, look at what their early impressions had been, and he did not doubt but that they would be much surprised that their opinions should have changed so much, and that they now thought so differently to what they did at the beginning. If they did not adopt some such plan as this, they would not find that their opinions varied so much as they sometimes did week after week, and by pursuing a system of this sort they would be able to check the theoretical results of the laboratory, which of itself would show what was in the material, but would not show what the plant itself would take. As to the value of the analysis, which was to be obtained for 5s., he was inclined to think, as had been suggested in the paper just read, that that would be left very much to the pupils. A man who took upon him the responsibility of doing work of that kind, and had the required skill, could not be remunerated by 5s. a sample. Let them consider the time it took to make an analysis accurately and carefully, and they would see that no man could do it for that small sum; and the more he had to do, the more he must put it off to assistants to do for him. The retaining fee of the Chamber of Agriculture was not anything like enough to guarantee a reliable and useful analysis; it was asking for a bargain that the market would not supply. Ask Mr. Smith if he could go out valuing at a retaining fee of 5s. per acre? That gentleman would, no doubt, tell them that he could not do it himself, but that he must send someone else to do it. Then, with regard to determining the quantity, do not let them infer, from what had been said as to the different results, that chemists were dishonest. It was a very difficult matter, and the difference in the manipulation, and in other respects, in making the experiments would, in many cases, account for it. It was surprising what different results would accompany the attempt to do even a very simple thing in two different ways.

Mr. PAUL READ remarked that they had a perfect right to adopt the course that had been suggested in regard to the analysis of manures, but it appeared to him very much like trying to catch a thief. The thief would come when they were not looking after him, and that was very much how it would be with the artificial manures. He did not wish, of course, to vilify the character of manure merchants, but he thought this analysing agitation was calculated to encourage a doubt as to whether agriculturists got value for their money. There was one way of obviating the difficulty, which was far better than having recourse to analysis, a way in which they might have a little profit on their manures and do themselves good at the same time. It seemed to him to be more a question of honour with the merchant than a system of analysing. They, perhaps, bought of a merchant because he happened to belong to a firm of old standing, but he would say why not be your own merchant? Let them form a Joint Stock Company, in which the farmers of the county were shareholders, and they could have a chemist of their own at a salary of from £200 or £300 a-year, and a large agricultural business. Agricultural manure merchants made fortunes very rapidly, and the idea of a Joint Stock Company would, no doubt, be greatly assailed. The chemist of such a Company could be paid almost any salary, and he would have nothing but rough, hard work. Its affairs could be managed by 12 or 20 of the most respectable farmers of the county, whose names would be a guarantee that it was really a farmers' Society, and its manures were good. A Society of that kind could do an immense business.

Mr. W. B. KENT said when Mr. Ling had finished reading his paper he (Mr. Kent) was under the impression that there was a very easy and cheap way for farmers to have their

manures properly analysed so that they knew really what they were buying; and he thought it would be a good thing for farmers to join such an organisation as the Chamber of Agriculture. But Mr. Jeaffreson had since stated that although the chemist would state what the manure consisted of, it would leave the farmer in entire ignorance as to what the plant would take up. If there was to be an analysis of two or three kinds of manures, and there was nothing to show which was the most valuable to apply in a certain direction—if on the contrary, that was a matter that was to be demonstrated afterwards, then he confessed that he could not see what the analysis would do for them as farmers.

Mr. JEAFFRESON said that the chemist would express his opinion which was the most likely to answer the purpose of the farmer, but that was, after all, a point which the farmer must find out for himself by practical observation.

Mr. KENT said that a person going to a maker and buying a quantity of manure did not wish to wait until after he had used it before he found out whether or not it was the right kind. If a man intended, for instance, growing beet, he, of course, wished to know in the first instance what was the most suitable manure, and he would naturally rely upon the chemist telling him which was the best. The members of this Club were now told, however, that it would be necessary to wait some two or three years before it was known whether or not it was good.

Mr. WOLTON apprehended that the information obtained would depend upon the questions put, such as, what was its commercial value? or whether it was the right kind of material to use for a certain plant?

Mr. KENT said he hoped no one was a disbeliever in analysis. What they as farmers wanted to know was, not so much what the manure contained, as whether a sample, say of beet manure, contained the proper qualities for growing a beet crop, and whether, if it was put on to the land, it was in a state to

be taken up by the plant. The question resolved itself into this, would an analysis tell them what they wanted to know? He himself believed it would.

Mr. JEAFFRESON said a laboratory analysis would not tell them all they wanted, but they must supplement that by their own examination, of the effect it had upon the plant. No laboratory chemist would tell them the physiological value it would be to the farmer; that was a point they must determine for themselves, after they had had a sample of it and tried it.

Mr. WOLTON said it appeared to him that the main information sought to be obtained by having an analysis, was, whether or not the manure was adulterated.

The CHAIRMAN said he agreed with Mr. Jeaffreson, that the fee proposed to be given was a very small one, but no doubt, after a time, if thought desirable, a higher fee would be given, so as to ensure a proper and reliable analysis.

Mr. LING, in reply, said he thought the gentlemen present were labouring under a misapprehension as to the object in view in the appointment of an analytical chemist by the Chamber of Agriculture. The duty of gentlemen filling such a position as that was to give what was termed a simple ordinary analysis which would enable farmers to know whether there was any foreign matter or any adulteration, and that was, after all, the main thing that they would want to know. With regard to the turnip and beet manures, their value depended, of course, upon the amount of phosphate they contained, and that Mr. Sibson, by his analysis, would tell them. He (Mr. Ling) was shown an analysis by Mr. Sibson sent to a gentleman in this neighbourhood, and he (Mr. Ling) confessed that he was surprised to see it was of such an elaborate character.

The CHAIRMAN, in conveying the thanks of the Club to Mr. Ling, expressed himself personally obliged to that gentleman for the trouble he had taken upon the matter, and intimated that this was the last discussion meeting of the season.

OVER MY PIPE.

This last unfortunate winter has still been productive of a great haul to the unthrifty farmer, as he may ultimately be regarded who keeps an empty foldyard, and sells his hay and straw—hay at seven sovereigns per ton, and straw at five! If that could go on for ever it would be a profitable business indeed. But at last vegetation hath taken a start, and, by help of a few soft showers and some sympathetic sun rays, there will soon be, we devoutly hope, a bite, if not a cut, upon the meadows. "If you please, sir, be I to hurdle the Alderneys on the island there, the same as we did last year?" "Most certainly not. I am never going to be over-persuaded by you men again to pasture the island; it is the greatest waste." "Why, you mind, sir, it did keep a sight of stock all the summer." "So it may have done, but it would have kept a sight more if it had been mown instead of eaten off. Suppose, now, your wife were to give your little son Dick a whole loaf to feed on. He would take it with him; and do you think it would last him half as long as if she had supplied him with decent slices as he required them? Why, wouldn't he take it with him to the field to watch crows and slobber over it, and waste it, and give half of it to the birds? Of course, you know he would. And that island, so warm and sunny, and forward with its alluvial crop, I regard as my loaf for the cattle. Do you understand that now, you loafer?"—Rustic retires leering.

What splendid weather for getting in the murphies! We are as busy as possible, man, woman, and child, with only one drawback, and that is, a regret that we did not do all this work (as we have so often preached it should be done) last autumn. The fact is, we were short of a team, and, moreover, put in a largely-increased breadth

of wheat. Say what we will, however, by way of excuse, the fact remains that we made a grand mistake. We have already begun to feel a foretaste of another dry year in a bundle of asparagus with which old Melon yesterday indulged the youngsters. They were decidedly spindly and tough. Perhaps it is that one saw the vegetable elsewhere, so much more satisfactorily grown the other day. Instead of being planted comparatively upon the flat, the roots were placed in high ridges of powdery soil, deep trenches having been dug on either side, and the stuff thrown out upon the ridges, while the hollow itself is kept filled with manure, leaves, and such like; anything in fact to produce warmth and juicy food for the roots. Out of a bed of this sort in the open gardens most delicious sprouts are being cut by my friend.

What a jolly thing it is to have kind-hearted helpful neighbours! Just now, as we are sinking within sight of shore, utterly destitute of straw of any sort, but with good promise on the meadows, which we are determined, however, not to nip too soon, a neighbour sends the message that he will gladly lend us a load until next harvest, and not oblige us to go on meting our unhappy balance in this dire extremity. Now, that's what I call a real charity. Depending more upon sheep than cattle, his stackyards had a goodly reserve of old straw.

How vexations it was last harvest on our hot banks to reap the crop, on good land too, thin-headed, and about eighteen inches high, only whereas in a field in Suffolk about two summers since one was lost to sight upon the footpath intersecting a field, and I plucked a few stems seven feet two inches long. Now that's what I call a creditable straw! Men made of straw of that sort this winter hereabouts would have had their pockets lined with

gold ere this. This morning the ponies are trembling in their shoes. The youngsters are arriving from school, and will have less mercy, I doubt, upon their ministering slaves than I fancy their pedagogue has upon them. "That's lovely!" I remember so well hearing, and that not so long since, from my hiding-place behind a tree, our Benjamin exclaim, as, after a protracted and most diplomatic struggle, to judge by the feints, made especially by the moke (I couldn't call either "an ass" from what I saw), he managed to put his charge over an extemporised timber jump between a hurdle and holly-bush, being himself immediately afterwards, and before the savour of his enjoyment had departed, sent head-long by a well-timed upheaval of the donkey's rear. Whereupon a circumlocutory engagement commenced, of carefully-considered thwacks on the one hand, and on the other of artful three-cornered kicks, both comparatively destitute of danger, the force on either side being expended by the vigorous counter-guard which it was essential to keep. Meanwhile I slipped away, being convinced that so long as they continued at that fun, they were, to say the least, safe from doing any other more serious mischief, which they might otherwise have been tempted to perpetrate. They were as good as tethered for that afternoon. Strange is it how the youngster takes naturally to sticks. Not that I mean he delights in being "anointed" himself—far from that—but that his impulse from the earliest moment of his life is to threaten anointment to others, man, woman, animal, or brother-babe. I have a witness in my favour, for no later than last Sunday, while returning from church, I pointed out to a lady her hopeful, about two-foot high, staggering along under the weight of a large birth-day prayer-book and a pea-stick, which he was brandishing *is terrorem* of everyone, and himself in particular. Can it be due to an instinct inherent in our nature since the savage period of man's history? There's not a babe in our village that doesn't march tottering along, when it can get the chance, under a triumphant load of the sort; but then I must remember that between the immediate physical unsettlement and the certain future rheumatic residuary disorder, that child will soon come to require a stick to lean on, in a country where, to the disgrace of the agricultural community, the tiny crow-keeper bargains for "three-pence a day and his drink!" But on this drink question more anon.

I sit out upon the garden-seat to rest. All geniuses of course require occasional rest in the intervals of composition—a breathing-time between the throes as ideas struggle up to the birth, and swaddling-clothes are being prepared to wrap them in as soon as they see the light.—Although my recollection of the little human beggars

(and especially Benjamin) is of a little pallid, piling thing making mouths at you, and blinking and breathing a smothered atmosphere between blankets, would murder anything but incipient humanity.—But this reminds me of two things; first, did not the great Thackeray evolve his mighty ideas to his amanuensis, "floating many a rood," like Tityus, upon "a sofa in his bedroom, between the turns of a distempered walk? Wherefore, then, should not we sandwich work and repose? The next reminder is of a night—dark and howling, of course—not many weeks since, when we were summoned from the sanctum of our study on very important business to the servants' hall, where we found, grave browed with weighty matter, and having his little son to sustain him, our shepherd with simply a chilled lambkin in his arms, born that evening, and astonished almost unto death by the change of climate he had to sustain. We simply had him laid in a hamper (from which he leaped out lustily during the night) in blankets, and administered a dose of "half-and-half"—whisky and spirit of nitre, and he was left to his slumbers. Accidentally I was informed by the children, the other day, that "the lamb you gave the drink is the liveliest of the whole lot: he jumps and plays about so!" No doubt, don't wonder at that. Perhaps he wants to draw attention, and have a second suck—which, *entre nous*, he won't.

But funnier than this. Whether induced by recollection of the taste of currant-cake he got that night in attendance upon the lamb or not, anyhow the little man—the shepherd's son—has since been through a severer ordeal. How would you like, gentle reader, to sit a whole mortal day through upon an inverted bucket watching her panting, snoring porcine majesty upon a shallow couch, within her fragrant residence, and taking care that by no unhappy somnolent plunge or movement should she extinguish life in some inky suckling of the lot, snuggling up beside her? For two nights, owing to plethoric condition, it was deemed only safe to set them in a blanketed basket, with hot-water bottle at base, and leave them before the kitchen-fire. The intervening day and the day after, our little friend sat out this interesting, toothsome watch, and was plentifully rewarded by a brace of groats. Whether the piglings, in mischievous affectation of profound slumber, induced him too to take a nap by snatches, and then took stock of his person, with a view to imitation, or not, I cannot say; but I do know that they have done their best ever since to wither and drop their tails, coveting, possibly upon the Darwin theory, a rise in the ranks of civilisation. Our limit looms upon my sight; and it is time for me too now to drop my tale.

OUR AGRICULTURAL PRODUCE.

BY CUTHBERT W. JOHNSON, F.R.S.

It is always an interesting research to trace the gradual advance of agriculture. That history is ever cheering to those who are labouring for its improvement. It tells us, when we are remembering the good results obtained by past generations of cultivators, to still labour for its advancement. It warns us never to consider that we have accomplished all that can be done for the improvement of our produce.

A little official Blue Book of agricultural returns which

has recently been published, is well worthy of the cultivator's study. In this little octavo, of only 76 pages, we find a mass of statistical information. Here we have the state of farming of 1870, and the previous three years. In comparing these with those of five centuries since, how cheering is the result of the comparison! It is true that when we are inquiring as to the produce of our land at that distant period, we have only very small reports to aid us, but limited as those are, they well suffice to show

the former poverty of our soils. In the fourteenth century (to give only one or two instances) the average produce of wheat per acre in England could not have been more than 10 or 12 bushels. In his history of the Suffolk parish of Hawstead, Sir John Cullum has given the report of its manor farm in the year 1387, from which we learn that the yield of grain from

66 acres of wheat	was then 69 qrs. 2 bushels.
24 acres of barley	was then 53 qrs. 2 bushels.
62 acres of oats	was then 40 qrs. 4 bushels.
25 acres of peas	was then 25 qrs. 3 bushels.

The farm of Hawstead contained 572 acres, of these 321 were in tillage, 30 were meadow, and the remainder wood and pasture. The live stock consisted of 26 cows and a bull, 6 heifers, and 6 calves, 10 working oxen, 4 cart-horses, and 6 colts, 92 muttons, and 6 score of hogger-ills, or two years old sheep. The cows were fed during the winter upon rack-meat, all the hay was devoted to their support. The other stock were kept alive upon the straw and hain, or on the pastures. The result of this wretched feeding was the production of a very poor stock of farm-yard manure. Roots were then unknown as winter food, to oilcake the same remark applies. As winter approached the farmer of those days began to kill off his live stock. At Martinmas he killed his oxen to supply him with his winter's beef. Tusser, who wrote more than two centuries after the time of the Hawstead report, says in his November husbandry :

(For Easter) at Martinmas hang up a beef
For stall-fed and pease-fed play pick-purse the thief,
With that and the like, ere grass-fed come in,
Thy folk shall look cheerily, when others look thin.

It may appear strange that at the period to which I am referring root crops were unknown, at least as a field crop, for, as I have on a recent occasion remarked, it is very natural for us to suppose that our root crops were always field crops, but, in fact, they were long cultivated in our gardens before they were grown by the agriculturist. It was not till about A.D. 1500 that even gardening was introduced into England—when Catherine of Arragon required a salad, we find that it was supplied from Holland—cabbages came to us in 1510; hops in 1524; potatoes in 1563. Turnips were grown only in gardens till about the year 1669. In that year Worlidge, in his "Mystery of Husbandry," p. 46, observed, "Although turnips be usually nourished in gardens, and be properly garden plants, yet are they, to the very great advantage of the husbandman, sown in his fields in several foreign places." In 1684 this root is first mentioned by Houghton, as food for sheep. The carrot is indigenous in our island, but its cultivation was long confined to our gardens. The same remark applies to the beet. Worlidge, p. 164, describes it in his "Garden Tillage." The mangold was first advocated as food for stock by Dr. Lettsom, in the early years of the present century, and by General Beaton in 1811. It had been, however, tried in Lancashire successfully in 1790, and in Norfolk about 1797. We may then well feel interested in the researches of the horticulturist and the botanist in search of new plants, denizens of perhaps far distant climes. When, indeed, we remember that the potato came to us from the New World, the mangold from an equatorial climate, the swede from far colder lands than our own, we may yet feel hopeful that other valuable plants will yet reward the discoverer—plants of which future agriculturists will reap abundant harvests.

We must not conclude that the Hawstead produce was the result of an exceptionally bad year. We have two Surrey reports which clearly indicate a state of the soil

no better than that of the Suffolk farm. It was about this period that in the Manor Farm of Dorking, the produce of grain from

80½ acres of barley	was 41 qrs. 4 bushels.
28 acres of oats	was 38 qrs. 4 bushels.
5½ acres of tares	was 1 qr. 6 bushels.

We have also a report, still preserved at Winchester, of the value of the tithes of the Surrey parish of Beddington, in the year 1454. This parish contains 8,800 acres, and the report of the Commissioners who made the valuation contains several curious facts relating to a parish whose tithes are now commuted at £1215. The grain is stated to be—

6 quarters of wheat at 5s.....	£1 10 0
60 quarters of barley at 3s.	9 0 0
20 quarters of oats at 1s. 8d.	1 13 4
Peas and tares.....	0 6 8

The whole tithes then produced only £21 2s. 8d., from which, after sundry "deductions or reprises," amounting to £11 15s. 4d., the then rector received a clear profit of only £9 15s. 10½d.

The produce in the days of the Plantagenets was, in fact, that of land nearly unmanured—or at least that of soils, from which almost all was abstracted, and but very little returned; the yield indeed then appears to have been about the same as that of the present experimental land at Rothamsted, from which 19 crops of wheat (averaging 14½ bushels per acre) have been taken in successive years, and not any manure applied during that time.

In all ill-cultivated countries the average produce of grain is naturally limited. According to the recent Blue Book returns, to which I have already referred, p. 76, the average amount per acre of wheat in various countries is at present as follows :

Holland	26.3 bush.
Norway	22.8 "
France	17.1 "
United States	13.2 "
Portugal	8.9 "

Of barley the average produce is given as follows :

Holland	43.6 bush.
Norway	28.4 "
United States	27.1 "
France	20.9 "
Portugal	11.1 "

Of oats the average is in

Holland	39.5 bush.
Norway	35.8 "
United States	29.6 "
France	25.6 "
Portugal	18.6 "

After a certain long period had elapsed the average produce of our land began sensibly to increase. Agriculture was at length regarded according to its real value. Jethro Tull introduced the drill husbandry at the beginning of the 18th century. Roots were now cultivated as farm crops, and towards the end of that century Arthur Young calculated the average produce of our wheat lands to be equal to 23 bushels per acre. Here we have to record a very considerable advance upon the produce of those farms to which I have referred of the 14th and 15th centuries. The subsequent advance has doubtless been steady, but perhaps less rapid. The present average produce is estimated by Mr. Caird to be about 28 bushels. As he remarks in his work on "Our Daily Food," "After a certain point is reached, the progress of average yield per acre is very slow. Arthur Young in 1770 summed up the result of his inquiries at an average of 23

bushels per acre. In 1850 mine gave $26\frac{1}{2}$, the whole increase in 80 years being thus only $8\frac{1}{2}$ bushels. Careful inquiry and observation lead me to the conclusion that in the 18 years that have since elapsed it would not be safe to take credit for an increase greater than $1\frac{1}{2}$ bushels, and even that is nearly twice the rate of progress of the preceding eighty years. We must not forget that a large portion of the wheat land of England is clay of moderate quality, as is proved by the fact that there is still one million of acres every year in bare fallow. The average produce of wheat in Ireland during the last twenty years has been found to be a little under 24 bushels. But even this is higher than that of any of our European neighbours, and 50 per cent. above the average of France. Taking the proportion of the acreage of England and Ireland I find 27 bushels to be the average produce of the United Kingdom."

The average produce of wheat in the county of Dorset in 1853 was estimated by Mr. Ruegg to be 28 bushels per acre. That of Essex in 1845 Mr. Baker calculated to be also 28 bushels. That of East Lothian in 1853 Mr. Stevenson thought was 31 bushels per acre.

Then as regards the annual average consumption of food, as Mr. Caird in another valuable essay remarks, Mr. Lawes divides the last sixteen years into two periods of eight years each, and the results of his estimates are embraced in the following summary :

ESTIMATED CONSUMPTION OF WHEAT PER HEAD PER ANNUM,

	England and Wales.	Scot- land.	Great Brit.	Ireland.	United King- dom.
During the last sixteen years.	bush.	bush.	bush.	bush.	bush.
First 8 years.....	5.9	4.2	5.7	2.7	5.1
Second 8 years....	6.3	4.3	6.0	3.3	5.5
Average of whole } period.	6.1	4.2	5.9	3.0	5.3

Converting these figures into pounds, it appears that during the first eight years each person consumed at the rate of 311lbs. of wheat, and during the last period 335lbs. But the proportions in which that consumption was afforded by foreign supply had also altered from 79lbs. per head in the first, to 134lbs. in the second. Here two very important results are shown; first, that the people are able to buy, and do consume more bread; and second, that we must at present depend chiefly on foreign countries for the increased supply necessary to meet the growing consumption. The Parliamentary returns showing the per-centage proportions of corn and green crops in each division of the United Kingdom is very interesting. In round numbers, it appears that England supplies nine-tenths of the home-grown wheat, Scotland and Ireland together only one-tenth; and the increased breadth, sown under the stimulus of the high prices of the past year in England, is equal to the whole acreage under wheat in Ireland. England produces more than three-fourths of all the barley grown in the British Islands, nearly all the beans and peas, and one-third of the oats. Ireland grows one-half more oats than Scotland, and two-thirds of the entire potato crop of the United Kingdom. The three kingdoms, as compared with France and Prussia, grew the following proportions of acres of corn to their respective populations :

England	1 acre for every	$2\frac{1}{2}$ persons.
Scotland	1 "	$2\frac{1}{2}$ "
Ireland	1 "	$2\frac{1}{2}$ "
France	1 "	1 "
Prussia	1 "	1 "

And of potatoes—

England	1 acre for every	62 persons.
Scotland	1 "	20 "
Ireland	1 "	5 "
France	1 "	13 "
Prussia	1 "	5 "

With regard to live stock, these countries stand in the following proportions :

CATTLE.

England	1 for every	5 persons.
Scotland	1 "	3 "
Ireland	1 "	$1\frac{1}{2}$ "
France	1 "	$2\frac{1}{2}$ "
Prussia	1 "	3 "

SHEEP.

England	1 for every	1 of population.
Scotland	2 "	1 "
Ireland	1 "	1 "
France	1 "	1 "
Prussia	1 "	1 "

In considering the increasing consumption of our home produce of grain we must not forget two very material facts, viz., the steady enclosure of formerly uncultivated lands, and the more than equally extensive increase of our population. To these questions Mr. Wren Hoskyns some time since addressed himself. As he observed, the first English Enclosure Act passed in 1710. In that century about 4,000 acres were inclosed; its progress during the present century has been as follows. From—

1800 to 1810 ...	acres	1,657,980
1810 1820 ...	"	1,410,930
1820 1830 ...	"	340,380
1830 1840 ...	"	236,070
1840 1850 ...	"	369,127

What ratio, adds Mr. Hoskyns, do these fresh acres bear to the new mouths to be fed? The subjoined table answers that question—

	Acres. enclosed.	Wheat imp. in qrs.	Inc. of pop. in Gt. Brit.
1800 to 1810	1,657,980	6,009,468	1,506,687
1810 1820	1,410,930	4,585,780	1,278,533
1820 1830	340,380	5,349,937	2,161,405
1830 1840	236,070	9,076,379	2,349,648
1840 1850	369,127	23,298,353	2,308,181

During this period (keeping the war period, 1800 to 1816, by itself), the average prices of wheat per quarter were—

1800 to 1815 (inclusive) ...	84s. 9d.
1816 1820 "	78 4
1821 1830 "	58 3
1831 1840 "	57 0
1841 1850 "	58 0

It now remains, continues Mr. Hoskyns, to attempt the bold task of calculating, from the foregoing data, what was the probable average home produce of wheat in Great Britain during each of these decenary periods from the commencement of the century. Deducting from the calculated consumption the quantity imported, the account of the annual average produce will stand as follows :

1800 to 1810 (last year inclusive)	8,152,135 qrs.
1810 1820 "	9,501,457
1820 1830 "	11,077,533
1830 1840 "	13,359,083
1840 1850 "	15,148,055

The next question to be considered is the increase or decrease in cultivation of our leading crops and in the number of our domestic animals. The best answer to this inquiry is to be found in the little Official Blue Book,

to which I have before referred. In this, at p. 23, is contained a summary of the total acreage under each principal crop, and of the number of live stock returned in Great Britain, in each year from 1867 to 1870:

	1867.	1868.	1869.	1870.
WHEAT.				
England ...	3,140,025	3,396,890	3,417,054	3,247,973
Wales ...	116,733	180,552	135,562	126,928
Scotland ...	111,118	124,683	135,741	125,642
Great Britain .	3,367,876	3,652,125	3,688,357	3,500,543
BARLEY.				
England ...	1,892,338	1,780,201	1,864,088	1,963,744
Wales ...	148,340	151,608	157,582	163,853
Scotland ...	218,486	219,515	229,810	244,142
Great Britain .	2,259,164	2,151,324	2,251,480	2,371,739
OATS.				
England ...	1,506,861	1,488,470	1,511,975	1,490,647
Wales ...	247,006	257,153	252,970	253,057
Scotland ...	997,120	1,011,430	1,017,775	1,019,596
Great Britain .	2,750,987	2,757,053	2,782,720	2,763,300
POTATOES.				
England ...	289,611	327,173	356,829	358,890
Wales ...	45,077	47,431	49,107	48,602
Scotland ...	157,529	166,939	179,275	180,169
Great Britain .	492,217	541,543	585,211	587,661
TURNIPS AND SWEDES.				
England ...	1,621,123	1,605,980	1,614,580	1,641,666
Wales ...	67,927	70,350	67,098	70,293
Scotland ...	484,800	488,812	489,848	498,932
Great Britain .	2,173,850	2,165,142	2,171,526	2,210,911
CLOVER, &c., UNDER ROTATION.				
England ...	2,478,117	2,370,638	2,004,902	2,766,777
Wales ...	300,756	328,232	260,899	398,282
Scotland ...	1,211,101	1,261,188	1,182,925	1,389,825
Great Britain .	3,989,974	3,960,058	3,448,726	4,554,884
CATTLE.				
England ...	3,469,026	3,779,691	3,706,641	3,757,184
Wales ...	544,538	593,373	589,108	604,749
Scotland ...	979,470	1,050,917	1,017,724	1,041,434
Great Britain .	4,993,034	5,423,981	5,313,473	5,403,317
SHEEP.				
England ...	19798337	20980779	19821863	18940256
Wales ...	2227161	2668505	2720941	2706479
Scotland ...	6898603	7113112	6995337	6780854
Great Britain .	28919101	30711396	29588141	28897589
PIGS.				
England ...	3,548,755	1,981,606	1,629,556	1,813,901
Wales ...	229,917	187,316	171,675	198,547
Scotland ...	188,807	189,614	129,227	158,690
Great Britain .	3,966,979	2,358,536	1,930,458	2,171,138

We find then, as the editor of this valuable Blue Book remarks in commenting upon these returns, "the quantity of land apportioned to the cultivation of corn crops in 1870 exhibits the following variations from the three previous years. In Great Britain there were 210,000 acres less than in 1869, 115,000 acres more than in 1868, and 264,000 acres more than in 1867. In Ireland there were 35,000 acres less than in 1869, 19,000 acres less than in 1868, but 58,000 acres more than in 1867. The acreage under wheat in the United Kingdom in 1870 was less by nearly 200,000 acres than in 1869. This difference, at an average yield of 28 bushels per acre, represents a diminution in the home supply of wheat of 700,000 quarters. The acreage returned under barley in 1870 was considerably larger, both in Great Britain and in Ireland, than in the previous three years. In Great Britain the acreage under Barley in 1870 was 120,000 acres more than in 1869, 220,000 acres more than in 1868, and 112,000 acres more than in 1867. In Ireland the increase has been progressive since 1867, and in 1870 there were 20,000 acres more than in 1869, 55,000 more than in 1868, and 71,000 more than in 1867. There was a very trifling difference between the acreage under potatoes both in Great Britain and Ireland in 1870 as compared with 1869; but the number of acres under that useful crop in Great Britain in 1870 exceeded the number in 1868 by 46,000 acres, and the number in 1867 by 95,000 acres, showing a very considerable extension of the planting of potatoes in a period of four years. The acreage of the potato crop in Ireland in 1870 was about 9,000 acres more than in 1868, and 42,000 acres more than in 1867. Turnips and swedes, although perhaps unfortunately on account of the very unfavourable season, were sown in Great Britain to a larger extent in 1870 than in 1869 by 39,000 acres, and the acreage under those roots in 1870 was also above what it had been in 1868 and 1867. In Ireland there were 18,000 more acres of turnips in 1870 than in 1869, and the acreage of 1870 was greater than that of 1868 and 1867. The cultivation of mangolds in Great Britain continues to increase; in 1870 there were 14,000 acres more than in 1869, 57,000 more than in 1868, and 48,000 more than in 1867. In Ireland also, although but a small acreage is as yet devoted to this valuable crop, there was a marked increase in 1870. The crops of cabbage, kohl-rabi, and rape in Great Britain varied but little in acreage in 1870 from 1869, but, as shown in the detailed tables, kohl-rabi advanced from 18,000 acres in 1868 to 24,000 acres in 1870. Vetches, lucerne, and other green crops, except clover and seed grasses, show for Great Britain a decrease of 43,000 acres in 1870 as compared with 1869; the falling off was chiefly in vetches. Beetroot, which is now attracting attention in this country for the manufacture of sugar and spirit, is returned under the last-mentioned class of green crops, and, although but a small acreage is occupied by this root, there has been an increase from 1,429 acres in 1868 to 4,333 acres in 1870. The exact acreage under sugar-beet is, however, not known."

The reader will then remark that from these returns we find that a decided increase has taken place in our island during the last four years in the number of acres devoted to the growth of barley, potatoes, mangold, kohl-rabi, and sugar-beet. The number of cattle has increased, that of sheep and pigs slightly decreased, as has also the acreage devoted to wheat.

From such a brief retrospect of the progress of English agriculture, we may well be cheered on in our efforts to accomplish still greater results. That much is yet to be achieved by the employment of additional capital will hardly be doubted by the reader. Such an addition will

lead to deeper ploughings, the use of steam-power, more live stock and consequently more farmyard manure, the use of hitherto-wasted enormous amounts of sewage, the employment of more artificial dressings, the extended growth of sugar-beet, potatoes, and other roots; and lastly, but

not least, when we remember the vast increase which has taken place in the practical skill and science of our agriculturists, we need not doubt that there will be a long-continued gradual increase in the average produce of the land they cultivate so well.

SIR EDWARD KERRISON'S BENEVOLENT SOCIETY.

Sir Edward Kerrison has inaugurated a Society to increase and develop sobriety and self-reliance amongst the agricultural labourers, starting it with a thousand pounds, given under conditions which will never permit its recipients to accept it in mere alms. Every shilling of the gift must have other shillings added to it by the men for whom it is intended before they can touch it. The virtues of sobriety, self-denial, and honesty, are all encouraged and strengthened by the gift. The Society is to be confined to persons residing in the parishes of Eye, Hoxne, Denham, Brome, and Oakley, in Suffolk, but provision is made for its extension to any adjoining parish with the consent of the President and of the Committee of Management. Members are to be received from 18 to 34 years of age, and the number at present contemplated is 350. The general objects of the Society are thus expressed in the preface to the rules:

1st. To encourage the sons of labourers to form habits of thriftiness at an early age, by enabling them to insure a sum of money for their first start in life by small quarterly payment.

2nd. To supply a great need, which benefit societies have failed satisfactorily to secure, viz., a provision for men of 60 for the rest of their lives.

Agricultural labourers as a class have, by experience, been found unable to provide the annual sum necessary to secure an annuity at 60; thus honest, hardworking labourers, after years of toil, are often reduced to extreme poverty. Under the arrangements set forth in the rules, these difficulties are obviated, and an allowance after 60 can be secured by a small quarterly payment, within the means of any labourer in the parishes of Eye, Hoxne, Brome, Oakley, and Denham. The Society also becomes a kind of savings' bank, for in the event of the death of a member before he has received the benefits of his membership, or under any extraordinary circumstances in his lifetime, the money subscribed by him with an addition (made at the option of the Committee) will in all cases be returned.

The business of the Society is to be transacted at Eye and Hoxne alternately. At the former place the meetings will be held either at the Workman's Hall or at the School House, and in the latter at the School House. The management will be in the hands of a Committee of Management, consisting of a President, Trustees, Secretary, and eight elected members, two of whom are to be elected from the members in Eye, two from the members in Hoxne, one from the members in Denham, and three from the members in Brome and Oakley. Sir Edward Kerrison is to be the President during his life, when the presidency devolves upon Lord Henniker, who are also to be the Trustees. At the decease of the noble lord the appointment of President will devolve upon the Committee of Management. Provision is made also for the appointment of a Trustee. The surviving Trustee is to elect with the approval of the members, and on his failure to do so within a month after such vacancy having arisen, the vacancy may be filled by the votes of a majority of the members at a meeting called

for the purpose. A collector is to be appointed in each of the parishes, so that the attendance of the members will not be necessary out of their own parishes. In the month of May in each year the annual meeting is to be held. The members will only be required to pay 1s. 3d. a quarter, with 3d. a year to cover the expenses of management; and being two quarters in arrear is to be held equivalent to leaving the Society and a consequent forfeiting of its benefits. These are, as is stated in the preface to the rules, of two kinds. The first consists in making a payment, equal to the amount which has been contributed by the member to the Society's funds, with a certain addition equal to about 60 per cent. of that sum, when he may most need it. The Committee are to consider this application, and the member must have been a member six years if he is between the age of 18 and 30, and three years if between 30 and 36 years of age. The form of application in these cases names the crisis in the member's life when this application is to be made as "being about to take a situation, or requiring money to purchase clothes or tools, or being about to marry." Thus the Society will act as a savings' bank to the young men. The next benefit comes to the members at 60 years of age, in the shape of a small annuity. Their payments to the Society also cease at this age. These annuities are of course very small, and would be even less were they not to be supplemented from the interest of the £1,000 with which Sir Edward starts the Society. Those who enter the Society as boys of 13 or 14 years of age will be entitled to an annuity of 8s. 4d. a month, while those who do not enter till they are 25 will only receive 6s. per month at 60 years of age, and those entering at a later period in life will, of course, receive even smaller sums; but in ordinary cases they will be of sufficient amount to form a comfortable assistance to the aged labourer. Provision is also made for returning the money subscribed to the representatives of such members as may die before attaining the age of 60 years. Mr. Francis Woolnough is to be the Secretary of the Society. The following example of the working of the fund will show the effect:

Age at Admission.	Age at Death.	Amount Saved.			
		Without Sir E. Kerrison's aid.		With Sir E. Kerrison's aid.	
		£	s.	£	s.
12	20	2	0	3	12
	28	3	10	6	6
	30	4	10	8	2
	35	5	15	10	7
	40	7	0	12	12
	45	8	5	14	17
	50	9	10	17	2
	55	10	15	19	7
	60	12	0	21	12
				or 8s. 4d. per month for life.	

The young men of the above-named parishes were invited by handbill to meet at the Town Hall, at Eye, to discuss the scheme.

Sir EDWARD KERRISON, who was in the chair, said I have come here for the purpose which is stated on the bill which has been sent about to the different parishes—to consult with you as to whether it is desirable, or not desirable, to form another benefit society. I might have mentioned this subject at our annual gathering—which I hope will still continue, our harvest homes—but it is a matter of business, and I don't

think a matter of business is well considered, or properly weighed after a good dinner. I think upon those occasions you prefer people to speak to you generally, of what is going on in the neighbourhood, but not particularly upon one subject, and therefore I have asked you to come down to-night, that we may have a little real business talk. My intention is not to use unnecessary words, but to try and explain to you as nearly as I possibly can the object I have in view in establishing another benefit society. The first thing I have to show you is this—I have to show, if I am able, the necessity for establishing another benefit society; and when I have shown you that, then to show you the means which I think will best promote it. I take it that all over England, at this very moment, the one thought amongst those who think at all, is, what is to be done with the vast amount of unemployed labour in the large towns. People do not know how to deal with pauperism in those great towns; and it will continue until some means shall be devised to employ the labour which is now unemployed, and to make it productive. The stream of labour will continue to flow into the towns. As the poet says:

Men may come, and men may go;
But I flow on for ever.

Yes, like a great river, that stream will go on flowing into the towns where it is necessary it should be employed. But, my friends, I want to bring you nearer home. We must look to see whether for this great evil of pauperism—which exists all over England—there are not some means of allaying it within our own neighbourhood, whether there are not some means for us who are in the habit of saying “These rates are growing, we must get some one to pay them,” to reduce them ourselves. We are sometimes looking out too much like young thrushes with our mouths open, waiting till somebody comes to put something into them, but as in the case of the thrush when the mother is dead no one comes, and the thrush dies, so shall we find we have nothing if we expect others to help us. Don’t let us wait for some one to come to pay the rates for us, but let us see what this evil is around us. In this county you will hardly believe it, but it is a fact, and it may be proved, that the sum of £140,000 is annually paid for the relief of the poor. That money is paid merely to keep body and soul together, not to get employment for labour, not to create that which reproduces itself, but merely to keep body and soul together. Let us come nearer home. In the Hartismere Union, in which I am now speaking in the year 1850 the cost was £8,493 for the general purposes of the Poor-law. In 1870 we were paying £8,563, or £70 more than we did 20 years ago. Well, the remarkable part of this statement is to come. In this 20 years we have reduced the population by 2,000 and odd people. We have increased the natural population—or our population has increased in the same ratio as in other places, that is to say by 3,444, but that 3,444 have thought it best to go to places where they may get more money for their labour. Here we are, then; in these 20 years we have lost 2,000 in this union, and we pay £70 more for our rates. Now there must be something wrong in this. There must be either some want of care in the administration of the Poor-law, or some want of prudence and foresight in yourselves—it will be for us now to consider which of the two is the true reason, or whether either of them taken alone would, if removed, be sufficient to mitigate this evil. There are five parishes here—Eye, Brome, Hoxne, Oakley, and Denham. I will mention one parish, Hoxne, to illustrate what I have said more precisely. In 1850 the population of Hoxne was 1,263, but now it is about 1,090; so there are 173 less people in the parish of Hoxne at this date than in 1850. But what are the rates?—what is the amount paid for the maintenance of the poor? In 1850 it was £567; in 1870, it was £787—that is to say, in the parish of Hoxne, the rates are now paid to the amount of £220 more than when there were 173 less people in the parish. Now, there is something radically wrong in this. Is it that you have less work? No. I happen to be a very constant attendant at the Poor-law Board here now, and to know how you are employed, and in 1850 I was likewise in a position to know how the neighbourhood was situated in regard to employment. At that time there were numbers of people standing idling in the streets wanting employment, and as a large employer of labour myself, as well as my father, I know that at that time we had 20 or 30 applicants for work every week—a state of things which

does not exist now—so that the labourers were much less employed then than now. Then, have you been improvident? No. Since I can recollect, and even within twenty years, a vast number of benefit clubs have arisen amongst you. Some of them, no doubt, have failed from being on a rotten foundation, and others have sprung up of a better kind, so that there is evidence, so far as I can see, that you have done what you can to mitigate this great evil; but you have not mitigated it. Therefore there has been this intention on the part of you all; you have desired to do your fair share in the reduction of the evil of pauperism, yet it stands where it was, and we have to pay heavier rates than we paid before. Now, I think, in the first instance, there is an evil in the management of the poor-rate itself. Now in anything that I am about to say to you on the administration of the poor-rates or the officials, I must guard myself against making any personal remark whatever. Those who have the administration of the Poor-law in the Hartismere and in the Hoxne Unions are equally men of the highest personal character; and I must also speak in the same terms of the medical men, the most under-paid of all the servants connected with the administration of the Poor-law. The relieving officers, Mr. Hart of this district, and Mr. Thurston for Hoxne, are men who, if I had to pick men for the purpose, I don’t know how to pick better. They are good conscientious men, desirous of doing all that is right and fair to you. But I think the system is wrong which administers through officials that which really ought to be the genuine effort of the ratepayers themselves—that is in itself wrong. Now I want to show you labourers how intimately you are connected with this. You who receive relief as paupers may make no attempt to benefit yourselves, or to lessen the poor-rate. You may look upon the Poor-law only as a means by which you obtain relief; but the vast majority of you, I know, look upon it in the same way as I do myself. You are as large rate-payers, in proportion, as I am. Take your cottages of £3 average rent—as to my own cottages, which let at an average of £3, I pay the rates—but I will take the rates upon a £4 cottage in Eye as an example. The rates, paid by myself on a composition are 5s. annually; if they were paid by you, without composition they would amount to 7s. annually; so that for these cottages in this town, as well as in the neighbouring parishes, you, my friends, who perhaps may be on the pauper list, have to contribute your share, and therefore I tell you that it is your interest to diminish that 5s. which I have put for argument sake, as it is for me to diminish my £5. It is for this reason that I want particularly to impress upon you that we have all one interest in the matter of reducing the amount of money paid through the poor rate—and not only, my friends, in the interest of economy, but also in the interest of independence. My great aim, and what I have come down here to-night for, is not only to see how money may be saved, but also how you, my friends, may, from this time, be more independent than you are now. When a person finds fault with an existing system, I think he is bound, at the same time, to proclaim a remedy. I think as far as regards the Poor-law administration, the plan I would recommend is founded on sound common sense, and it has been, as I will show you from two or three instances, most successfully worked. I have said that the fault of the Poor-law administration is, that it is an administration through officials. I have guarded myself particularly in that in telling you that the officials with whom I am acquainted are all of them men of high character, who, to the best of their ability, carry out the Poor-law Act. I ask you what can one man—however clever, however good, however full of sympathy and kindness he may be—how is that one man to represent the wants and requirements of ten thousand people? which is about the number that some relieving officers have to attend to, for the Board of Guardians. What is the course pursued at the Board of Guardians? Some of the guardians are present and some are absent, but even if they are present, how much do they usually know of the wants of the people applying for relief? The opinion of the Relieving Officer is usually taken, and perhaps he may know, or he may have known a week before about the people applying for relief. But there are circumstances in the lives of poor men which require constant looking into. What do you do yourselves? You have Friendly and Benefit Societies, and by which you pay 10s., or more or less, to your sick members. Do you rely upon officials and upon official returns? No, you send people to ask about

lowing the London lead, has certainly recorded during the week its "strong objection to the division of rates between owners and occupiers, seeing that it would be the means of disturbing all existing contracts between landlords and tenants, without the least benefitting either." This embodies, perhaps, more of mere assertion than sound argument, whereas at the meeting of the Herefordshire Chamber on the day following, Mr. Constable said, "if he took a farm of 200 acres eight or nine years ago, the rates being at that time 1s. in the £, and had since risen to 2s. or 3s. in the £, his landlord would bear no share in the greater rating, which unfortunately fell wholly on himself. That indeed was the case of most farmers in the county, and as far as he himself was concerned his rates on one part of his farm had risen from 1s. 2d. to 3s. in the £, and on another part in the city from 8s. 6d. to 7s. in the £." This is of course an awkward and incontrovertible fact—the *Saturday Review* nevertheless and notwithstanding. Again, Mr. Hereford, the chairman of the day, "was glad to see that in the bill there was a scheme to divide the interest between landlord and tenant, and not to over-ride it. Some landlords paid the rates and let the land free, but of course the tenant had to pay more for it." Of course, and when the Lincolnshire Chamber, perhaps very naturally, fears to disturb existing arrangements, does it look sufficiently at both sides of the question? Assuming that the landlords in the Local Taxation Committee obtained all the relief they desired, that this they got a goodly proportion of rates and taxes taken off the land, would there then be no disturbance of existing arrangements? It requires something like Arcadian simplicity to believe there is a landowner mixed up with this movement who would even promise as much. That would palpably make it "quite another thing," but as the first principle of Political Economy is that rents should rise as rates fall, we cannot help thinking that farmers are neglecting questions which more materially concern them as a class, for one that however disposed of must interfere with the existing arrangements between landlord and tenant; and as the Chairman said at Hereford "I know that in all changes the tenant must feel it for a time."

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Mr. Sewell Read stated, in the *Mark Lane Express* of last week, that the Law of Distress had never been considered a grievance by the tenant-farmers of England. Mr. Read cannot peruse the public journals, or he never would have made such a statement. I have read of, and heard the subject frequently alluded to, as a grievance by tenant-farmers at various agricultural meetings for the last five-and-twenty years. Next to the reduction of the Malt-tax there is no measure the legislature could pass which would confer more benefit upon the tenant-farmers throughout the United Kingdom than making the landlord a simple contract creditor, by placing him in the same position as the banker, the merchant, and the tradesman, who, as it is, dare not give the tenant-farmer credit lest the landlord should sweep off all the stock on the farm, and leave the other creditors to receive a small dividend on their debts. Such a measure would have a strong tendency to check the maniacal competition for land, by considerably reducing the number of eligible candidates for farms. This competition is ruining the tenant-farmers, by advancing the rental of land far beyond its fair value. I was delighted to see how honestly and independently Mr. M'Combie spoke out in the House of Commons on the question of the abolition of the Scotch Law of Hypothec. Would that we had a few more such members to represent us—men who will not sacrifice to Party the interests of their constituents. Mr. Read claims credit for his exertions on behalf of the farmers with respect to the modification of the Gun-tax, and I beg to offer him my thanks for his services on that occasion; but after all our servants are not allowed to have shot in their guns when scaring birds, and most of your readers know how little notice crows, larks, and other birds destructive to the newly sown corn take of guns loaded with nothing but powder. We have the Speaker of the House of Commons to thank for preventing the Ministers taxing our cart-horses when drawing materials for repairing the roads.

April 28.

A LINCOLNSHIRE TENANT-FARMER.

TENANT-RIGHT OR LEASES?

An esteemed Wiltshire correspondent has forwarded us a copy of the *Farmers' Journal*, of more than a quarter of a century ago, containing two letters which were addressed in 1845 to Mr. Philip Pusey, the member for Berkshire, and one of the warmest friends the tenant-farmer ever had, on the subject of compensation for unexhausted improvements. The one was from an agent of Lord Yarborough giving an account of the usual allowances to outgoing tenants in North Lincolnshire: the other contains the suggestions for improved agreements between landlords and tenants, which were adopted by the Loughborough Agricultural Society. These documents will be familiar to the older generation of readers of the Royal Agricultural Society's *Journal*, in which they appeared in 1845. Into the details of tenant-right allowances it is obviously impossible for us to enter; and it is not necessary that we should do so, for is not all that can be said upon the subject written in that store-house of information, *Shaw and Corbet's Digest of the Tenant-Right Blue Book*? And, by the way, as the recent legislation for Ireland has revived the demand for similar protection for the tenant on this side the Channel, it is very probable that not many sessions will pass before we have a tenant-right bill for England, and in view of such a contingency we would just point out the value of this unpretending little volume, in which we get the condensed essence of a voluminous blue-book, which few persons would

attempt to wade through, all arranged under counties and subjects with a clearness which we feel sure, from some little experience of our own in such matters, represents some downright honest hard work, and no small intelligence to pick out the grain in some 8,000 questions and reject the chaff. Now here we have in a compendious form all that we really want: local customs, different modes of cultivation, the prevalence of leases or the reverse, opinions on the necessity for legislative enactments, the benefit that would arise from a fair system of compensation, and some details of the nature of that compensation when considered with reference to farm buildings, permanent improvements such as drainage and road-making, or temporary improvements such as manures, with some recognition also of the landlord's rights in the matter of dilapidations, all discussed not merely by one man however able, but, what is far better, by the opinions of practical men from all parts of the country from Dan to Beersheba. What Messrs. Shaw and Corbet did was simply to put all this mass of valuable information into shape, and this they did so well that when the subject comes up again for active agitation, as we feel sure it must before long, we shall find the work half done for us in this book, and all that will be necessary will be to make such additions to it as the rapid advances which agriculture has made in the last quarter of a century may require. For example, steam cultivation, if we date from

the taking out of Fowler's patent, is but fifteen years old, but its introduction represents an era in the history of agriculture which tends to throw farming more and more into the hands of men of large capital, and the larger the capital employed the more necessary is it that it should have some protection. The question is in what way can that protection be given best? By leases or by well defined tenant-right? Each side will have its advocates, but to be satisfactory the two things should go together. If however they are taken separately we believe that if the country were canvassed a large majority of the tenant-farmers of England would give the preference to a well-considered system of Tenant-right upon which they could depend in consequence of its being clearly defined by legislative enactment. Even with the present loose customs, varying often within the limits of the same county in the most happy-go-lucky way, we believe that not a sixth, perhaps not an eighth part of the land in the kingdom is held under a lease of any kind. The fact is that the lease itself requires a good system of tenant-right to make it work well up to the last. It runs along smoothly enough for the greater part of its time perhaps, with no worse effect than hampering the farmer a little in his management, but when it is coming near the end then comes the pinch which tests its real value. If it is stringent enough to prevent a tenant from working the land out, it is probably stringent enough to make him pay in his last years for the benefit of his earlier ones, and if so *cui bono?* We were walking the other day over the farm of one of the tenants of a nobleman in the Midland Counties, who is well known in the agricultural world as very hard in the matter of leases, and he was complaining that his lease was so lightly drawn that he had no opportunity of making the best of his land to suit the season. "I don't manage the land," he said; "it's all done for me in old So-and-So's office" (the agent's). A lease, especially a long lease, is all very well for encouraging a man to lay out his capital freely by giving him security of possession for a sufficient number of years to enable him to get his money back again, but both for the landlord's interest and for the tenant's it should be supplemented by a good system of tenant-right which would not drive the occupier to seek to recoup himself by sweating the land at the end of it. As matters stand at present the first half of a lease is spent in getting the land into good condition, and the latter half in dumping it out again for the next man to repeat the process; and thus the farm goes on being alternately bettered and degraded, so that it is a great question whether it is not given up to the landlord on the expiration of a lease in worse condition than it would have been under a yearly tenancy.

In point of fact, if the question lies between a lease without tenant-right or tenant-right without a lease, we should be disposed to say that the latter is far better both for landlord and tenant, and, therefore, also for the land; and even in the matter of security of possession, it was stated by several witnesses before Mr. Pusey's committee that farms are held longer in the same occupation where there is no lease than where there is. The very fact of a lease running out suggests a change, whereas with a yearly holding the thing goes on quietly from year to year, and so long as the tenant is farming properly, the landlord acts on the principle *quiesca non movere*, and lets well alone. There are names all round us which have become household words in particular districts, and are always associated with this or that farm, when perhaps there has never been such a thing as a lease on the estate. On the whole, then, a lease is not an unmixed blessing. It gives a feeling of security for the time, but it is saddled with conditions which detract greatly from its value. On the other hand, the man who holds from year to year without any tenant-right protection is trusting more to human nature than he ought to be required to trust. Practically, no landlord would disturb a man who is farming well, and pays his rent punctually; and the fact that so much land in England is held at will, and is farmed so well, is sufficient proof of the good relations which exist between landlords and their tenants. But a man ought not to be required to trust to this now that the capital which is buried in the land is so much larger than it used to be, to say nothing of the considerations which arise out of the new system of maintaining such enormous heads of game. Neither is it consistent with making the best of the land that it should be let down in condition at every change of occupation, in order that the outgoing tenant may not be compelled to leave some of his property behind him. What is wanted for the best interests of both owner and occupier is a well-considered system of tenant-right, depending not upon custom or the opinions of referees but upon the law of the land, which shall enable a man to lay out his money without feeling that he is doing so at his own risk. Then leases will be all very well; they will give a pleasant feeling of security, and they will not require to be so tightly drawn in the management clauses as to hamper the occupier as they do now, since a man will be enabled to farm up to the last in such a way as will leave the land in good condition for his successor without injuring himself. Of course we know that a lease endeavours to secure this, and that it does so partially, but no lease that was ever drawn can do it half so well as a fair system of tenant-right compensation.—*The Wills and Gloucester Standard*.

HEXHAM FARMERS' CLUB.

THE EDUCATION OF THE FARMER.

At the monthly meeting, the president, Mr. C. G. Grey, Milton, in the chair.

The Rev. B. E. DWARRIS, M.A., Hon. Canon of Durham, read a paper on Increasing the Facilities for the Education of Farmers' Sons. He said there are none who need more and have fewer facilities for the education of his sons than the farmer. He may destine his sons for various occupations in life—but for the sake of simplicity I will keep mainly in view the facilities the farmer requires for educating that son who is intended to follow his father's business. With a real education the farmer's calling might, and should rank as a liberal profession. His calling, if any does, demands not only large store of information, but a cultivated mind, a disciplined temper, and an enlarged heart. Besides having to secure to himself and family an honourable provision out of the soil, to his landlord his rent, and to the public service, in somewhat undue proportion, rent and taxes, few men are placed in so responsible a position as the farmer in respect of the public duties which are imposed on him. In thinly populated districts the farmer leads society, giving to it his tone, his manners, his morals, his religion; he is called upon as a layman to sift evidence, and to decide what is justice between an and man; as a guardian he bears in his hand the lives

of the poor; as a waywarden we bless him or the reverse as we jog over our township roads; as overseer and churchwarden he is a wheel or a clog in the highest material and spiritual interests of the parish in which his lot is cast. He elects our legislators; he is responsible for the healthy condition of the district; he is an acting elder of the church. Need I say more to prove that no man's position would better pay the pains and cost of education than the farmer's—better pay the squire, better pay the public service, better pay society, or the farmer himself? Yet in all the outcry, the exertions, the sacrifices that have been made for the education of the people, from the days of King Alfred down to the commencement of the last 25 years, the farmer has been always and only forgotten. Munificent endowments have helped the needy and stimulated the apathetic in every other department of society. The labourers' children have been cared for in the national schools; the tradesmen's and merchants' in the town grammar-schools; the gentlemen's sons in the royal foundations of our great public schools and noble universities; but the farmer has been left to fall between the two stools of a too high or too low education, or to the precarious resources of private adventure boarding-schools, of whose merit he has no particular guarantee; and till the last 25 years no common

action has been taken—no inducement offered to arouse him to give his sons an education broadly superior to that which is sufficient for his own labourer—besting the higher level of his rank in society, and commensurate with the positive requirements of his calling. In respect to his professional requirements, it has been well said that no farm can be made more productive to the farmer than that which is boarded by the ring-fence of his own skull; and that “the English farmer cannot rise to the full height of the position made for him by the growth of science until he receives a sound school training, valid in every part, and follows it up with a thorough training for his business.” It is beginning to be well understood that if he is to make two blades of grass grow where one grew before, he must have all the resources of science at his command—he must acquaint himself with the laws of nature which regulate the motion and the rest of bodies—with applied mathematics in the various branches of mechanics and statics, and with the sciences that bear upon agriculture, chemistry, hydrodynamics, geology, mineral and vegetable physiology, and practically he should not be at the mercy of servants better educated than himself—he should not be at the mercy of better accountants, better surveyors, better land measurers, better mechanicians, better draughtsmen than himself; he should at least know enough in each department to be able to avail himself intelligently, without being imposed upon, of the sciences of experts in each branch. Then he should have acquired somewhere methodical habits of business, and the power of commanding men: he should be able to speak and write correctly in his own language, and to read the transactions of foreign clubs. He should not be unarmed in general history, or altogether ignorant of political economy; he should be able to interpret an act of Parliament. It would be well that he should have his eyes open to the poetry and religious aspects of a country life, and he should have some of the resources of literature at his back for fireside use in the bosom of his family in winter evenings. I do not see less than this information should qualify him for an intelligent pursuit of his profession, together with a satisfactory performance of those public duties which we have shadowed out as his. But, indeed, even all this is not enough—we must look deeper than any information if he is to be able to use such information beneficially when he has got it, we must look to what is less interesting and more useful—to his being well grounded, i.e. to the cultivation of his mind. I mean to his having the powers of his mind strengthened at school, to his having acquired habits of close and accurate thought. For if afterwards he forgets every detail of his lessons, but carries away from school a brain sharpened and polished as an instrument for use, and a few first principles, which will stand by him all his life, do you think he will have gained nothing? Now this distinction that I would here make is from the outset all important, viz., that real education does not mean making a farmer, but a man. This is the difference between general education and a special or professional training. Each has its proper place, but it will not do to put the cart before the horse; make a man first, and a real man will make into anything; farmer, merchant, artisan, doctor, lawyer, anything you please. On this depends the distinction I would make between the school for boys and the college for young men. The school should make the boy into a man; the college should make the man into a professional man; all experience of education goes to confirm this view. But having thus far opened the subject, I must distribute what I have practically to say upon it under three heads. 1. I will inquire in what points the Northumbrian farmer still wants increased facilities for educating his sons. 2. I will offer a scheme by which I conceive those wants, by a vigorous effort, at this moment may be supplied; and, 3. I will justify my scheme by passing in review the experiments which have been made in this department of education within the last 25 years, with their results in failure or success, with the conclusions they suggest as to the solution of the problem how best to afford increased facilities for the education of farmers' sons; or, in other words, I am, first, to seek out the want; second, to show how I would supply it; and, third, to prove that this is no field of untried experiment in which I would call upon you to work. Now, 1 (to discover the want). A great part of everybody's education should be home education, but on that I cannot venture a word. But I do not see any reason why the farmers' boys should not frequent the public elementary school of his own parish between the ages of 7 and 13, but I

can see a great many reasons why he should. If his nose is kept to the grindstone as it should be, he will there in those days, I am confident, be well grounded in the elements of an English education, as well as of a religious education, in arithmetic, in the elements of mathematics, grammar, history, and geography. He will take no harm but good up to that limit of age by association there with boys, ay, with girls too, of the labouring class, and as it is necessarily a day school he will still have what are the inestimable advantages up to that limit of age of home attention, and of natural education in the parent nest, amidst the brood of brothers and sisters. But at 13 the case alters, and everything should alter with it. With all his advantage he should be at the top of the parish school, and should have passed the sixth Government standard; he should not be left there to look down, he should go where he will still have to look up. And here we come at once to the grand desideratum—the great want for which we are seeking. This is a large well-established public boarding-school, which must be in a rural district, that it may be in a locality at once physically and morally healthy, where the teachers shall be of a high order and have received the credentials of a public teacher, where the teaching, though still of a general and not professional character, shall be strictly limited to the requirements of an agricultural or commercial class of boys, who are not destined to continue the school education beyond 16 years of age—that is a school technically called “the second grade,” and last though not least, where the cost of board, lodging, and tuition not only shall come within the average tenant farmers' reach, but which may even tempt him, not without some sacrifice, no doubt, to send and keep two boys there instead of one, while he has only two boys between the ages of 13 and 16. A few words on these several requirements. It should be a boarding school. A boy in his position at 13 is better from home; he is getting too big, his room in the nest is more valuable than his company, he is too much now in the stables and the foldyard, and is getting more harm from half-grown servant lads than good from brothers and sisters; in a boarding school he will be in a new world, and will learn more from intelligent lads a little above him in age than from his father, who is too old to be his only though his best companion. It should be a public school with a great name, and, if possible, old traditions, as wealth is the representative of labour accumulated in past generations, so there is a pride and honour in an old school, which is the residence of the wisdom, genius, and learning which has hung over it from of old, and if the school has not attained to this yet, it should be now accumulating it by getting a name in the country at public examinations and so forth. It should be a large school. A large school pays better, and therefore can offer its advantage at lower cost; it commands the services of a better trained master: the discipline is better: everything is better—the good there is among the boys has more play, and the evil less, for it is self destructive—for demoralization cannot escape notices, or be tolerated as in small schools, without blowing up the whole thing. There is more genius in a large school to take the lead, as there is more musical ability in large numbers, where there are sure to be some accurate ears, and some rich ideas as may bear up all the rest. It should be in the country, for reasons I have given. The teachers should be graduated or certified by the stamp of public authority, and not such as can palm off empty professions for capital knowledge, and they should be answerable to public authority. The teaching should be such as may attract boys destined for as many occupations as possible, for it is not good for youth to be confined in a close atmosphere either mentally or physically; but still the school we need should be an agricultural school rather than anything else—that is have an eye first to the necessities of isolated farmers—and, I think, should be made easier in its terms to him than to such as live in towns and have greater educational advantages; but I am afraid on the subject of the teaching I must go more into details, for though it should bear an agricultural complexion, its teaching should be by no means professional. There is a great deal of *ploughing* and *harrowing* of the mind yet to be done, that is of real culture—before the time comes for putting in the special seed, it is on the ground; but while such subjects as history and political economy may be taught, the main step should be laid on teaching language and geometry. There is nothing “harrows” the mind like Euclid—take the word “harrows” in both senses, if you please; but Euclid is a subsoil plough, it increases the depth and power

the soil through which it is steadily and firmly forced; pure mathematics well drilled in at this period of life will enable a man to preserve the study of applied mathematics, that is to learn mechanics, statics, hydrodynamics, &c., &c., to much greater advantage afterwards with any other branch of science, chemistry, geology, botany, which may bear upon his professional pursuits; but above all, at this period of life, language is the best instrument for exercising and developing the powers of the mind. We have the hint of this from God himself, who is every child this as his first, hard, and serious lesson—to learn to speak—that is to learn a language; and now accordingly, while we must sweep away with a firm hand as cobwebs the frippery of classical education for boys of this stamp, is by no means so clear a case that they should not be taught resolutely part as much Latin as a boy may gain a good deal of his to leave school at 16. For first, as I would further, if the opportunity offered, give a general view of the structure and faculties of the human body, which I think would best prepare him in a general way for studying hereafter the physiology and anatomy of the horse, the cow, the sheep—so I could teach him Latin as the backbone of grammar, the skeleton system of all modern languages, whereby he will not only be the better able to understand his mother English, but such also he will be able to fit any other modern language, French or German, which he may set himself to study, but he forbids us to measure this subject further. Leaving this school thus furnished at 16, making place, perhaps, for a younger brother, he may go home and forget, I hardly would we how much—while he learns under his father for the next 10 years to work with his hands; and get to the bottom and the end of his father's system—and now it is that at 18 it could be time enough for him to go to a professional college. He has any ambition, and any true stuff in him—and if his father will nobly make one more effort of sacrifice to put him on a higher ledge of scientific and professional attainment than he has ever reached himself. Surely there should be a college in every county which the present landowners should be furnished with every appliance of museums, laboratories, workshouses, and store-houses of machinery, with competent teachers and every facility for the pursuit on the part of the wants of professional knowledge, and the study of those sciences which bear upon agriculture in their immediate application to the practice of it. But, enough for this head, I consider that I have sufficiently indicated that our immediate wants are these: 1st, a large boarding-school of second grade, whose special aim shall be the development of the forms of the mind and the formation of a character at a cost within the reach of an average tenant-farmer, and 2nd, a professional college on a Northumberland farm, where a young man may add to the best advantage the sciences which bear upon the culture of the soil, and learn with abundant practical illustration the application of such knowledge to the future requirements of his profession. Having ascertained our wants my second object is to unfold to you what seems to me a ready and forcible plan of supplying them—indeed to point to an opportunity which, if we do not seize it, may very soon be lost to us. It may sound Utopian to those who have tried to maintain schools of this class to suppose that farmers in general will for many years to come have so much faith in education as to impose upon themselves, or upon their children, the sacrifice of a ten years' close devotion to study. For myself I believe in the farmer of the future, but, be that as it may, he needs inducements, and facilities, and all the more here he is apathetic, his reason must be first convinced and his sense of natural pride, in his children and in his profession, must be quickened. All this has been done both for classes higher and classes lower than his own, by the educational endowments of the country. Let farmers' schools be made good, and not too dear, and the fountain heads of honourable distinction, they will no longer be refused or lightly esteemed by his class; but to effect this the educational endowments of the country must be called in aid for the farmer now, as they have been in times past for all other ranks of men. The farmers do not, indeed, want charity on eleemosynary institutions; they are well able, and have all the spirit, to support a school for themselves if they have only faith in it. What I mean is that a school must be in the first instance got up, run, and hatched into some prominence through the medium of educational endowments before it can acquire that prestige which will arouse them to make it their own, and adequately

to support it. This is a legitimate application of the educational endowments of the country for any class. The farmers would pay a reasonable sum for the board of their children, and a reasonable contribution towards their tuition—let us say £20 a year for their board, and £7 10s. to remunerate the teachers. But, in order that it might be done well at these rates, several conditions are requisite. It is only through large numbers and good management that the best teaching, and a proper diet could be secured at these prices. Then for so large a school—buildings of considerable dimensions and some dignity—ample space in grounds for recreation are eminently desirable. And to these conditions we must add the means of exciting emulation, and of rewarding merit in such a laborious and painful pursuit as the discipline of the mind, by prizes, and certificates, and honorary distinctions of all kinds—

“Fame is the spur, which the clear spirit doth raise,
To spurn delights and live laborious days.”

These are the conditions of a school, which the farmers could ultimately maintain for themselves independently, but could hardly create and call at once into a dignified existence. This must be done through the means of resources from without, and I proceed to show how. It will be within the knowledge of some of you that Parliament in the year 1869 intrusted to three commissions almost absolute power over the endowed schools throughout the country, and even the endowments which the piety of preceding ages has bequeathed for educational purposes, and that these commissioners have within this or the next year to make schemes for recasting any endowed school they may think fit into such new form as shall seem best to meet the wants of the locality or county in which it is situated, and not only so but they have power to amalgamate two or more endowments, or to make one central school out of several small ones. Now here, if I mistake not, is our opportunity. If there be only anywhere in the county any one endowed school in a rural district, which either has ample funds that under its present constitution are available for public uses, or of which the public are not at any rate to a full extent availing themselves, let the farmers of the county of Northumberland put in their claim and show their want to these commissioners. Let them ask for that school to be converted into a second-grade school, of a character and quality which may be offered at a cost which would suit their purses; and that a new scheme for such school may be passed in such manner as to give them as a class, in proportion to the greater difficulties they have than others in educating their sons, both facilities and inducements. Now the thoughts of all for whom the matter has any special interest will, I doubt not, immediately turn to the Haydon Bridge trust, which is known to be wealthy and doing at present but a moderate amount of good. Situate on a line of railway near the border of two counties, in a healthy valley, it is a choice site for a large boarding-school, being easily accessible to Northumberland, Durham, and Cumberland; and the commissioner who was sent down into the district to take a preliminary survey of these endowed schools, was himself the first to propound this very idea: for these are the words of his report: “The excess of endowment concentrated at Haydon Bridge available for the purposes of education, would fall little short of £1,000 per annum. I can suggest no other expedient for providing the farmers of Northumberland with an educational establishment similar to that at Framlingham.” And again, he says, “Haydon Bridge endowment presents the only opportunity for making an experiment in Northumberland similar to that which has succeeded at Framlingham.” Again, he suggests that Crewe's charity at Bamborough Castle might be made to supply some portion of the requisite funds for the same purpose; and once more, that certain school endowments elsewhere which are now doing more harm than good, as at Alledale, Stamfordham, and Ponteland, might be utilised by being turned into a common fund for bursaries, which might be held by farmers' sons coming from those districts to the supposed great farmers' school at Haydon Bridge. Supposing the commissioners were to lend a willing ear, let me glance briefly at some of the features of the scheme which might be suggested to them for their adoption. To give prospect of success to a school such as I have supposed to be desirable, at a cost to the farmer not exceeding the limit I mentioned as a maximum, viz., £27 10s., it seems to me that these advantages must be secured to it: 1, Buildings

free of rent; 2, A subsidised tuition; 3, Some special privileges to the farmer class; 4, A form of government which shall command public confidence.

1. **BUILDINGS FREE OF RENT.**—The school cannot be cheap and good unless it be on a large scale. To raise suitable buildings for three hundred boys a capital would be required of not less than £50 per head, or £15,000. The Commissioners might empower the trustees at once to provide an ample site of from twelve to twenty acres, and to capitalise so much of their property as would raise that sum, but it would serve a wider purpose that it should be raised by loan among such of the inhabitants of the county as may be friendly to the scheme, and desirous, without great sacrifice, to lend their support to it. There would be no risk of loss if the loan were subscribed in shares of £100 each, the capital secured by mortgage on the trust lands, and a small interest, say 2½ per cent., guaranteed, with the alternative of having a boy in the school for every share at a reduction of £5 per annum. If the school were successful, the experience of similar institutions leads to the belief that there would be profits, of which such a proportion as would accomplish it in a fixed series of years should first be secured as a sinking fund, for the gradual reduction of the debt; but if there were yet a balance, a dividend might be declared. Thus a large number of persons would become interested in the prosperity of the school—it is to be hoped a fair representation of the landed interest of the county at least.

2. **A SUBSIDISED TUITION.**—I suppose the farmer might pay £7 10s. for the tuition of his boy, but that would not provide by nearly half as much again the cost of first-rate tuition. There should be a teacher at least to every thirty boys. The whole cost would be from £10 to £12 a head. The trusts should give houses and retaining stipends of £200 and £100, at least, to the head and second master, and their remuneration should be increased by capitation fees from each boy, which would give them a vital interest in the success and prosperity of the school.

3. **SOME SPECIAL PRIVILEGES TO THE FARMER CLASS.**—If, as I am supposing, it is principally the county proprietors who shall principally exhibit their interest by subscribing to the school loan and taking up the shares, they would not be making any unreasonable demand, that, as in the case of large schools designed mainly for special classes (such as Marlborough College, for the clergy), the rate of charge should be made easier to the sons of the agricultural class than to others. I would suggest that it should be five pounds higher to any other than farmers' sons, viz., £32 10s., which might help to make the solvency of the scheme doubly safe, and give a better ultimate prospect of profit. Then I suppose that whatever portion of the income of the trust remains unexhausted after the calls already made upon it should be dispensed in exhibitions or bursaries of £10 or £5 each, still with preference to farmers' sons; but one condition I would make—that no lad should be eligible to bursaries from Haydon Bridge or any other favoured district who had not, previously to his entrance at this school, passed the sixth Government standard at a public elementary school.

4. **FORM OF GOVERNMENT.**—The head master should be supreme in the school, and have the uncontrolled power of appointing and dismissing the under masters; but the whole management of the boarding-house, or hostel, as it is called, except as regards the discipline, also of the course of studies to be adopted in the school, and of examiners and of examinations, should be secured by the scheme to a well balanced body of governors, who should in equal proportions represent, 1, the traditions of the original trust; 2, the feelings of the parents of children from time to time in the school; 3, the feeling of the landed interest of the county which I suppose to be represented by the shareholders; and, 4, the prevalent ideas of the highest educational authorities of the country. I think such a board would be secured if the original trustees, the parents, the shareholders, and the University of Durham were respectively to elect each of them, and three governors to sit upon this board. Before leaving this head I will add this much: I do not shirk, but I will not pre-judge the religious question. Boys must be trained as Christians or they never will be made men or farmers. I would claim a Church of England training for church boys. The motto I should like to see adopted would be—"No abatement of the truth after my convictions in my teaching, and no desire of dominion

over other men's convictions." Among the distractions of religious controversy it is a comforting belief which I entertain that to give a fair field to others' faith is the policy most likely to disband prejudices, and to lead up ultimately to the unveiled and certain truth. And now, supposing a large boarding school, of the type of Framlingham, thus provided for the preliminary and general education of farmers' sons, let us not forget that among the wants of Northumberland would still rank a special professional college of the type of Cirencester, where these sciences which directly bear upon agriculture, together with applied mathematics, including under that head mechanics, statics, hydrodynamics, &c., might be studied by young men who had first in the course of practical work appreciated the want of them, to much greater advantage than by boys at school, and where, too, the young farmer's education should receive the coping stone of a practical introduction to the most approved methods of managing a model farm in all its details. The Haydon Bridge trust have a valuable farm near Belford; how far this could be utilised for the purpose I am not prepared to say, but I observe among the objects of the founder's thought, as expressed in his will, the introduction of young men into the business of life as well as the education of boys. However this may be, this professional college, when we consider the energies of Agricultural Societies and of Farmers' Clubs, might probably much more easily than the school be self-created as well as self-supported. A model and experimental farm might or might not be necessary; but one good practical teacher of agriculture and one Professor of physical and mathematical sciences, to act also as principal, might be staff enough, I conceive, to begin to gather a few students, in a plain and unpretending building, which would have little need of dignity; if it seemed at all to take root, museums, and laboratories, and other appliances would probably soon be supplied by the enthusiasm of the county. Half the scale of payment exacted at Cirencester—say, for example, £65, would leave margin, after providing board and lodging sufficient for real working students, for the remuneration of a staff of competent teachers proportionate in number to the number of the students. But on this matter, even if my space permitted, I would not venture further into the dangerous region of details. But I have still to find my justification for these suggestions in experiments which have been already made elsewhere, and have largely succeeded to illustrate the short account which my time permits me to give of the origin, various fortunes, and present position of these experiments. I have prepared a table of six existing institutions, arranged into four groups according to the several systems of which they are respectively types; it will save one the necessity of going into minute and various details; at the same time, anyone that cares to do so may see there the reasons which exist for much that I have advanced. Under A you will perceive stands Cirencester College—the sole existing representative of its system—that, namely, of giving a merely special education, a professional training without anything to lead up to it. This was a capital fault in the original idea, though time has done much to obviate it now, that other large and successful schools for the general education of farmers' sons have grown up under it and up to it, for to them it may serve as the after—the finishing college. You will observe there are four sorts of institutions distinguished at the head of this table by the letters A B C D. Under A, Cirencester College, which had the start of all in 1844, and is the first foundation of the tenant-farmers themselves in their first-formed zeal for science and professional training. Under B is one representation of the Woodard group of schools—a leaven which is working and spreading far and wide through the land, and which is the offspring of the zeal of high churchmen to recover through the instrumentality of education some of the great and powerful middle-class to the Church of England. Under C are three representatives of another wide-spreading and very promising movement—the county schools, which owed their origin almost simultaneously with the first Woodard School to a host of noblemen, gentlemen, and a clergyman—the Rev. Prebendary Brereton, in the County of Devon, who anxiously desired to promote the elevation of the farming class through an education which should owe most to county influence. And after tenant-farmers, high-church clergymen, and the county gentlemen have for twenty years, independently of each other, and all with high but different motives, been

trying their prentice hands at moulding the education of farmer's sons into a tangible shape, there comes under D a solitary instance of the compound idea which these later times suggest, and which I have presumed to urge upon you to-day, the creation of a public farmers' boarding-school by the amalgamation of one of the old endowed schools of the country with the new system of the county schools. So has been amalgamated and with some success the old archbishop Holgate's School at York, with the modern York County Yeoman's School. As much experience has been gained, many lessons taught by the ups and downs, and gropings after success of these various experiments, long as I have already detained you, I must yet before I conclude, side by side with the details which you have in the synoptical table, pass each group so far under review as to attempt to give you some idea of the character, the merits, and failings of each.

A.—Cirencester College, founded in 1844, owed its institution, as I have said, to tenant farmers, and was first discussed at a Farmers' Club. The first idea of what farmers required, originating with themselves, resulted, perhaps, naturally enough in a simple professional college. The great war, at the beginning of the century, had put a great stress upon the resources of agriculture; the return of peace in '15 with machinery, steam power in all its novel application, and the opening resources of agricultural chemistry following rapidly in her train, kindled "zeal" which was not altogether, and possibly could not be according to knowledge. Enthusiasm makes mistakes, but often they are the stepping stones to higher things. It was a mistake to begin with a special professional education, and to think that the mind can profitably grapple with science, which has not gone through a long and severe preliminary training—that is to put the cart in front of the horse in the hope to get home sooner a cart-load of immediately profitable results. Other mistakes were made at the outset at Cirencester. It was a mistake to believe as they did that a farm could be worked to a profit while managed by a board of professors, and tilled by students. The farming by a limited company brought the concern in a few years to the verge of bankruptcy, while the students galloped after the hounds, or smoked unconcerned under the hedges. It was a mistake to suppose that educational advantages could be offered to good practical purpose in the same institution to working farmers and sucking landlords. The effect of this last mistake, while others have been remedied, remains to this day in the ambitious and expensive plan on which everything is arranged, and a scale of charges which is consequently all but prohibitory to the bulk of tenant farmers.

B.—In the meanwhile, or within five years of the starting of Cirencester College, the stationary or reactionary condition of education in the middle classes, made more apparent by its rapid progress in the classes both above and below them, struck very forcibly, though from quite another point of view, some zealous high-church clergymen of the Church of England. Mr. Woodard, a large hearted, a high minded, and determined man, observed the gap, and resolved to throw himself into it, and to arouse the spirit of the Church of England to fill it. He has been largely successful in his efforts, and has expended, I should suppose, not less than £150,000 in pushing and carrying out his scheme in its various departments. He relies, I should add, in some measure for the success of his plan in an economical point of view, upon being able to obtain teaching power for his schools through the self-sacrificing spirit of the English clergy, at a rate considerably below its market value. I have chosen one of his schools for my table, that at Hurstpierpoint, in Sussex, which I supposed came nearest, and furnished most lessons for our tenant farmers' needs. He has another planned for the reception of 1,000 boys at Ardingley, on the London and Brighton railway, which is also designed for the smaller farmers' class, and at which board and education is offered for £16 a year; but with this notice I pass it by, as I am convinced that the dietary is too low, the mode of living too poor for Northumberland stomachs; but at Hurstpierpoint, in a handsome and most commodious range of buildings standing in 24 acres of ground, upwards of 300 sons of farmers, and those of a corresponding grade of society, are receiving an education most admirably adapted to all the requirements, at a cost ranging from £27 to £30 a year. This is one of a series of schools founded by Canon Woodard, though a society of which he is head, which calls itself St. Nicholas College, and its object is

to provide suitable education under the nursing care of the Church of England, for all the different grades of the great middle class. This system is seen now extending itself northwards, and a Woodard school of similar plan and dimensions with Hurstpierpoint is ready for opening this present year at Denston, in Staffordshire. I must just add that the last few years have witnessed, independent of St. Nicholas College, other examples of a kindred enthusiasm with Mr. Woodard's. Archdeacon Dennison for some years turned his own house into a school for farmers' boys; the Rev. Philip Egerton has devoted his own and his wife's fortune, amounting to £15,000, to the erection and maintenance of a successful farmers' school at Bloxham, in Oxfordshire; the Rev. Daniel Trinder, a curate in Cornwall, entrusted between £4,000 and £5,000 in a similar undertaking at Probus, and this without the smallest prospect or expectation in any one case of any other return than keeping the establishment of a school for this class, which would ultimately become self-supporting. I cannot but pay my warmest tribute of admiration to this zeal, and I believe yet that religious zeal is the true salt to preserve a money-getting age from corruption; but for all that I believe it is too late to cultivate attachment to the Church of England through exclusiveness, or to implant her principles on any artificial or hot-bed system. An exclusive attachment to distinctive principles is apt to give them an exaggerated importance in comparison of the yet common inheritance of Christians, and I should not expect that the Woodard system would approve itself entirely as the best to the independent spirit of the North of England. The next movement in behalf of farmers' sons' education which occurred, and it was within five years again of the launching of Mr. Woodard's system—whether or not it was a reaction from its exclusiveness, or possessed an independent origin—was on a broader basis and of slower growth, but has exerted a wider influence and perhaps contains the seeds of a more permanent success. This is the county school system C, originating in Devon with prebendary Brereton, and Earl Fortescue, and cautiously tried in the first instance in that county at West Buckland; it has been largely followed in various counties and munificently fostered by the great landed proprietors. These county schools are designed to have, as the name imports, the frame-work of county society for their basis, in preference to the diocese and clergy, and their object is to provide a general education for farmers' sons on an independent and self-supporting system. The commercial or proprietary principle is introduced, buildings are raised by funds supplied by a limited company, a model farm and laboratories formed part of the original plan, but were put aside when it was found that while there is no harm in working at play—at cricket or at football—playing at work whether with the plough or in chemical experiments, is a very idle game. Another feature of this plan was the institution of local examinations for the awards of certificates of honour and prizes for proficiency in the various branches of agricultural science. This intention was superseded by the adoption of the plan in rapid succession. 1st, by the Society of Arts; 2nd, by the Royal Agricultural Society, and finally by the occupation of the whole ground by the local examinations, henceforward held by the great Urwinites at every centre where they can gather candidates. This has created a new era in middle-class education. With these local examinations it is impossible that provincial education can go on any longer at the dead level of the past. These certificates will have more and more a recognised honorary value before the bar of public opinion, and the gold which has not been charged and stamped will be taken as spun silver metal. The schools before us have generally taken a high standing at these University local examinations, but the trial school at West Buckland, the first example of these county schools, by a long way occupies the most eminent place. But now as the largest and most successful offshoots of this county school system I must mention Cranley County School, in Surrey, the Albert Memorial College at Framlingham, in Suffolk, and the Bedfordshire Middle-class Public School. Each is a boarding school with handsome roomy buildings standing in extensive grounds. The Albert buildings are free, the Lantpiers subscribed £22,000; the Bedfordshire buildings pay a dividend to a limited company. There are 300 pupils of the farming class more or less in each, and the course of instruction is suited to the requirements of their future profession. The charge per head is from £27 to £35. There exists one in-

stance already, and that not an unsuccessful one, of that amalgamation of a school adapted to modern wants, an old foundation which I have ventured to suggest; this is at York. Archbishop Holgate's school, as a classical endowed school, there attracted no pupils. The Yeoman's school, founded by the late Lord Carlisle, was languishing for want of funds. The two united into one now educate 100 boys, a fair proportion of whom are farmers' sons, at a cost of £28 10s. a year. If it were situated in the country its success would be probably still less ambiguous. For obvious reasons it has not fallen within my plan to notice schools however eminently successful, such as the grammar school at Hexham, which can only give accommodation to day boarders, as they evidently cannot be widely useful to the farmers' class, nor again private adventure schools which, though as in the case of Mr. Coulthard's, at Brampton, they have done good service, are necessarily, as depending upon the enterprise and life of a single individual, of a precarious and transitory character. And now, as my last word, I wish I could think I had not detained you so long without convincing some that a thorough general education would be a great gain to farmers' sons; second, that there exist sufficient grounds in experiments tried elsewhere for the framing of a safe scheme; and third, that it would be unwise to allow a new scheme to be promulgated by the endowed schools commissioners for the Haydon Bridge educational trust, without the tenant farmers combining to prefer their claim for a county school.

The CHAIRMAN said every part of the scheme seemed thoroughly worked out and sifted, and if it was taken up by practical men he was sure that, with the assistance of Mr. Dwarria, who was one of the hardest working men in this part of the country, they would be able to carry some such scheme to a successful issue. They need not expect that such a scheme could be carried through without meeting with obstacles, but when men were determined there were few obstacles which they could not surmount.

Mr. J. M. RIDLEY said he agreed with Mr. Dwarria that the first great object of education ought to be the laying of a sound foundation. Before they aspired to greater things they should get a good elementary foundation safely laid, so that they could build upon it other technical systems. He thought they had ample means for establishing such primary schools—he meant by the words primary schools, schools in which primary education was taught, and not primary schools in the sense of the new Government Code of education—as would amply fit any boy for entering a secondary school. He was in the position of a good many more in this county, somewhat entrusted, as a trustee of the public funds—nominally at least they were entrusted, as far as they had power—with the distribution of these funds and the carrying out of the directions of the founders. He spoke more particularly with regard to one particular fund, of which Mr. Dwarria had made mention, namely, that at Haydon Bridge. They had large endowments there, and they were at present endeavouring to devote them to what they saw to be essential to the neighbourhood, namely, a school for furnishing primary education. In this they had the greatest difficulty, and unless they obtained the assistance of the Government or the Commissioners, and had some additional powers granted to them, it was impossible for them to accomplish it. He thought they should not condemn what was existing without knowing the difficulties those people had to contend with who are entrusted with those educational funds. It is only by the strong power of the law that these funds can be rendered available for a scheme such as Mr. Dwarria had presented before them. He thought they were amply sufficient for securing both a primary school and a higher educational institute such as that suggested. He must say, however, that he was afraid they must look through a long vista of years before they could get that interference of the law which would give them the necessary power over these funds. The whole subject had been entrusted to three Commissioners, who proposed to devote their attention to the whole of such schools in England. He need not tell them that it would take twenty men five years to go through that work; and unless, by some representations, they could induce the Government to put more men on to that work, there were no hopes of their object being speedily attained.

Mr. T. P. DODS said he had heard a great many papers here, and he thought that, without a single exception, the one they had just listened to was the best he had ever heard. He

trusted that the Club would not simply rest satisfied with hearing the paper read and thanking Mr. Dwarria for it, but that they would take some practical steps for communicating with other parts of the county, in order to see what steps can be taken, or whether any can be taken, for getting some such scheme as had been presented to them set agoing, with the various funds there are in this county for such a purpose. The large funds connected with the Haydon Bridge charity, and those other school funds of which Mr. Dwarria had spoken, were amply sufficient to do all that was required, if they can only be got hold of. He suggested that the Club should appoint a special committee to confer with Mr. Dwarria, and to communicate with other similar clubs throughout the county, for the purpose of bringing this subject before the Commissioners or the Government, in order to ascertain what can be done in the matter. It is a matter of very great importance to the farmers of this county—a matter, he should say, of the first importance—and he was sure that they could not but feel much indebted to Mr. Dwarria for the way in which he had brought it before the Club.

Mr. W. TROTTER, the secretary, said Mr. Dods had suggested that a committee should be formed to carry out the views set forth in the paper. He thought that suggestion a proper one, and he hoped the Club would appoint a committee before separating to confer with Mr. Dwarria, and to take the other necessary steps for carrying out the proposed scheme.

Mr. DEDDON agreed with what had been said in regard to the importance of the subject brought before them that day; and he was glad to hear that, in the carrying out of such a scheme, Mr. Dwarria did not propose to give the teaching a denominational character. The Haydon Bridge charity had been referred to, and he wished to ask whether they thought it would be fair to the other classes of the community for the whole of that charity to be devoted to farmers? He could not see that it would be fair, as he thought there were others who had the same right to these funds as they had.

Mr. DODS remarked that they did not propose to deprive any class of the advantage of these funds.

The CHAIRMAN, in conveying the thanks of the meeting to Mr. Dwarria, said he was sure that the hands held up was but a small indication of the feeling of gratitude to him that was in the hearts of the members of the Club for having brought that matter before them. With regard to what Mr. Dryden had said about the Haydon Bridge charity, he was sure that nothing was further from the mind of Mr. Dwarria than to rob the poor of the district. These schools are a great benefit to the district. Within the last two or three years they had been doing everything in their power to try and improve these schools. They had endeavoured to get the Government Inspectors to come and report upon them but had failed. In consequence of this, when they endeavoured to get a qualified teacher—and a teacher goes for little now who does not carry the stamp of authority with him, they found that no one would come unless the schools were under the inspection of the Government Inspector. They had therefore been obliged to abandon those trained teachers. They offered to the Government to bear the expense if they would allow their Inspector to come to these schools; but they would not allow him to do the work even in his spare time. They would easily perceive, therefore, that they had had an up-hill struggle in getting those schools such as they are. One thing he thought would be for the advantage of the poor in that district, namely that they should be allowed to charge a small fee for each scholar. Parents who have nothing to pay for their children's education are only too ready to keep them away from school on any trifling pretext. A small fee would serve as a guarantee for the parent that the child would go to school when once he had paid his penny at the beginning of the week. If they could get a small fee from those who could afford it, they would then have increased funds for carrying on a more extended sphere of operations. It is not necessary to confine the whole of the funds of the charity simply to the elementary school. He had no doubt funds could be spared towards the scheme suggested without infringing upon the benefits which the poor and others in the district derived from the elementary school already in existence.

Mr. DWARRIA, in reply, said as farmers originated Cirencester College five-and-twenty years ago, so he thought a somewhat similar college, which was required for the north of England, might, if mention was made of it to them, be origi-

nated by the Hexham Farmers' Club. He had individually for twenty-five years been very closely connected with the farmers of Northumberland, and more especially with those in his own parish, and he knew them to be an intelligent, thoughtful class of men—a circumstance which always led him to feel that they would be prompt to receive an idea that would be of the least use to them. It was with the hope that the Hexham Farmers' Club would take up this subject that he was induced to bring it before them. With regard to the objection that had been raised, that had been already answered by Mr. Grey. In the first place, he had not the smallest idea that the primary school should be at all interfered with. He believed that it might be of advantage to have a small payment upon the children, as by that means both parents and children would learn to appreciate the school more. It would also then come in for its proper share of the Government grant, of which now it is deprived. Then, again, in regard to the school of the second grade, which he proposed, he had carefully guarded himself against its being exclusively for the

agricultural class. He meant it to be for the commercial, or any other that might be gathered into it, only he thought there might be some special provision for farmers, in proportion to the disadvantage at which they are placed through their exceptional and solitary position in the country. He thought something might be allowed as compensation for that disadvantage, but that was the only thing he would give them beyond what other classes were allowed.

Mr. DODS then moved that five hundred extra copies of Mr. Dwarria's paper be printed in large type, and bound up in the form of a pamphlet, for circulation.

Mr. GOODRICK seconded the motion, which was at once unanimously agreed to.

Mr. DODS next proposed that a committee of five members be appointed to confer with Mr. Dwarria, with a view to carrying out the suggestions contained in the paper, the committee to consist of the following gentlemen, namely, the Chairman (Mr. C. G. Grey), and Messrs. J. M. Ridley, T. P. Dods, T. Drydon, and A. Wood—which was agreed to.

THE BATH AND WEST OF ENGLAND SOCIETY, AND SOUTHERN COUNTIES ASSOCIATION.

A meeting of the Council of this Society was held on Tuesday, April 25, at the White Lion Hotel, Bristol. The chair was taken by the Earl of Cork, K.P., president. There were also present, Messrs. J. D. Allen, R. G. Badcock, J. T. Boscawen, C. Bush, B. H. Bush, T. Danger, J. Tanner Davy, R. Davy, John Daw, F. W. Dymond, C. Edwards, H. Fookes, John Gray, Jonathan Gray, J. D. Hancock, T. Hussey, H. P. Jones, M. King, J. Lush, H. St. John Maule, J. C. Moore Stevens, H. Middleton, G. S. Poole, J. C. Ramsden, J. W. Walround, W. Smith (Official Accountant), and J. Goodwin (Secretary and Editor).

THE MEETING OF 1872.—The deputation who visited Dorchester on the 15th inst. reported as the result of their conference with the local authorities that they were satisfied with the site offered for the Show-yard and the fields proposed for the Trial of Implements. Under these circumstances, the deputation, subject to the approval of the Council, had arranged to hold their meeting at Dorchester in 1873, and they recommended that an allowance of £20 should be made to the Local Committee in consideration of their making arrangements with the Turnpike Trustees for implements, stock, poultry, &c., connected with the Society's Meeting, to be allowed to pass turnpike free for the week preceding and the week succeeding the week of the Exhibition. The report of the deputation was received and confirmed, and all matters may now be considered to be definitely settled.

REQUIREMENTS OF TOWNS.—At the last meeting of the Council it was moved by Mr. Poole, that after the Guildford Meeting the preliminary money payment required of towns desirous of receiving the Society be reduced from £900, at which it now stands, to £800, but this, after an animated discussion, was lost by a majority of two.—Mr. Jonathan Gray now moved—"That whereas prior to the Society's Meeting at Dorchester in 1860 the preliminary money payment required of towns was £800 only instead of £900 as now required, the Council do, after the Guildford meeting, revert to the former sum."—To this an amendment was moved by Mr. Moore Stevens in the absence of Mr. Knollys—"That with reference to the Annual Exhibition of this Society a Committee be appointed to consider whether any modification of the conditions and money payments required from towns be desirable, and to report thereon to the Council. This amendment having been seconded by Mr. Poole, led to considerable discussion, and eventually it was carried by a majority of 16 to 2, and the Committee was appointed to consist of Messrs. H. Williams, G. S. Poole, J. E. Knollys, John Gray, Jonathan Gray, R. G. Badcock, Clement Bush, and J. C. Moore-Stevens.

GUILDFORD MEETING.—The programme for the forthcoming meeting was brought up and settled.

At this stage of the proceedings the chair was vacated by the President and taken by Mr. R. G. Badcock, V.P.

On the motion of Mr. JOHN DAW, seconded by Mr. POOLE,

it was resolved that the following be substituted for that hitherto known as the 8th bye-law: On a vacancy occurring in the Council, otherwise than at the annual meeting, the same shall be reported at the first meeting of the Council, after the same is known to the secretary, and notice thereof shall be inserted in the following agenda paper, and at the next or some subsequent meeting of the Council, members shall be nominated to supply such vacancy, such nominations to be inserted in the next agenda paper, and the election shall take place at the next succeeding meeting."

Major Allen, M.P., and the Hon. and Rev. S. Best were recommended by the Council to the annual meeting for election as vice-presidents; and the following members were recommended to the annual meeting to be elected as members of Council to fill the vacancies in the Council occasioned by resignations, retirements, or other causes:

Eastern Division.—Andrews, H. G., Rington, Sherborne; Bruce, W. A., Ashley, Chippenham; Bush, B. H., 10, Carlton-place, Clifton, Bristol; Fookes, Henry, Whitechurch, Blandford; Hancock, J. D., Halse, Taunton; Jones, Henry Parr, Portway House, Warminster; Lush, Joseph, Hartgills, Kilmington, Bath; Luttrell, H. A. F., Badgworth Court, Axbridge; Thompson, William, Danaford-place, Bath.

Western Division.—Archer, Edward, Trelake, Launceston; Dymond, Francis W., Bampfylde House, Exeter; Farant, Mark, Growing, Collampton; Froude, William, Chelton Cross, Torquay; Hooper, John, Chagford; Hussey, Thomas, Waybrook, Exeter; Scott, W. Robson, St. Leonard's, Exeter; Moore-Stevens, J. C., Wincott, Great Torrington; Troyte, Charles Arthur Williams, Huntaham Court, Bampton.

Southern Division.—Best, Hon. and Rev. S., Abbott's Ann, Andover; Clutton, Robert, Hartwood, Beigate; Deedes, William, Sandling Park, Hythe; Drace, Joseph, Eynaham, Oxford; Gill, Frederick, Beaham, Reading; Jervoise, Sir J. Clarke, Bart., Idsworth House, Hornsea; Lennard, J. Faraby, Wickham Court, Beckenham; Middleton, H., Cotteslowe, Oxford; Ramsden, J. C., Busbridge Hall, Godalming.

Elected without Reference to Districts.—Allen, Ralph, M.P., Shockerwick House, Bath; Edwards, Charles, The Grove, Wrington; Mills, E. F., Orcheston St. Mary, Devizes; Pitts, James Pitt, Newton House, Drewsteignton, Chagford; Rawlence, James, Balbridge, Wilton; Trood, Robert, Matford, Exeter.

The following new members were elected: Mr. Adkins, Dorchester; Mr. Alfred Agate, West-street, Hornham; Mr. J. C. Andrews, Tail Mill, Crewkerne; Mr. Anthony Gibbs, Tintestield, Bristol; Messrs. Gill and Carling, High-street, Guildford; Mr. John Lettman-Johnson, Gostrade Farm, Godalming; Mr. Albert Napier, Cranleigh, Guildford; Mr. Arthur T. Newman, West Dean, Chichester; Mr. J. Stewart Oxley, Fen Place, Worth, Crawley; Mr. Daniel Turvill, East Worthing, Alton; Mr. E. Mansell Williams, Flushing.

THE UTILIZATION OF FURZE.

BY THE NORTHERN FARMER.

This plant, variously called whins in Scotland and gorse in England, has from time to time received a good deal of attention from agriculturists, and many arguments both for and against it have been offered. Its detractors are generally men living in situations where furze is a plant known only by name, and who occupying good land at probably a high rent, and capable of growing heavy crops, can form no conception of the value of a plant which is associated in their minds with poor craggy land, bare of surface, and deficient of stamina; in point of fact, with all that is miserable in agriculture. On the other hand, those who have supported the theory of furze culture as a profitable branch of husbandry, making it a part of their own practice, and identifying themselves thoroughly with the subject in public discussion, have been men living in districts where the plant is abundantly distributed, and where a constant warfare must be kept up to prevent its taking complete possession of the soil. To such men its importance as a forage plant could not possibly pass unnoticed, considering the ease with which it can be grown, the large bulk which it yields to the acre, and the avidity with which it is eaten by horses and cattle when properly prepared. The horse eats it with great apparent relish, carefully bruising with his feet any plant he may happen to meet with on his pasture before eating. Both cattle and sheep pick at it in the open field or on the mountain side, yet will not eat it in considerable quantity unless impelled to do so by necessity. Not being naturally so well provided by Nature with the means of bruising the sharp spines as the horse, they have not the same opportunity of showing their taste for it so decidedly; but when properly prepared by cutting and bruising, both the sheep and cow eat it greedily. Cut into half or quarter-inch lengths by the ordinary chaff-cutter, the horse can make a hearty meal on it, and fill himself well: not so the cow, however, as in this state she will never fill herself properly—sniffing at it, and turning it over with her nose, picking out the soft pieces, and rejecting all containing any portion of sharp spine. To persist, therefore, in giving cattle furze simply cut with the chaff-cutter is a mere waste of time and throwing away of money, as it cannot thus be utilized, more than half of it being thrown under their feet, and the animals reduced to a state bordering on starvation, unless supplied with other food, in which case the furze-brake becomes valueless. In some districts of country, inhabited principally by small farmers, furze forms the principal food of the horse, and when they are accustomed to it from the time they are able to eat anything, it is astonishing how well they clean it up, however roughly prepared. It would rather surprise many men if they saw a horse baited with chopped furze, after bringing his load to market, and moreover eating it with as much apparent relish as a pampered horse would eat chaffed hay, oats, and crushed beans. The first time such a sight as a horse being fed in the public street of a market-town with this food was seen by ourselves. We looked with undisguised astonishment, and all the more so as, having been too old before being cut, many of the pieces were as thick as the first joint of a man's little finger, not one of which, however, being rejected by the animal, curiosity impelling us to see him finish his meal. To the small farmer living in a backward district a few acres of furze is especially valuable, supplying him, as it does, with a large amount of

food for his horses and cattle during the months of winter, and enabling him to preserve his too often scanty stock of hay and turnips until spring, his cows then calving, and requiring an increase of food, and of more nourishing quality. By leaving a portion of the brake to grow strong, he can procure from it a considerable supply of fuel, its value of course greater or less according to his distance from a coal-pit, seaport, or railway station where coals can be procured. The great improvements of late years effected on chaff or furze-cutters, and the comparatively low rate at which they are now sold, have placed them within the reach of almost the very poorest, and the furze-cutter driven by hand-power has become a familiar and indispensable implement, thousands having been sold by the leading makers in districts where a few years ago the chopping-knife or strong bill-hook was the only instrument in use. Working the machine is not considered to be such very hard labour by the men; and it is astonishing how soon one man to turn it and a boy to feed will cut sufficient for the daily wants of the stock on a small sized farm. When grown extensively on large farms and given twice a-day to a heavy stock, the hand-machine becomes totally inadmissible, and the large sized ones driven by horse, steam, or water-power, must take their place. When the latter is within reach, and in sufficient quantity to be of service, it should be made available by all means, as it is by far the most economical power that can be used, and the most regular in its working. The turbine taking up little room, and requiring but a small stream of water to drive it, offers many minor advantages; and is eminently suitable for adoption by every farmer who has the command of water, and such an amount of work to perform as warrants his laying out the necessary capital. The reservoir when once substantially built and water-tight will remain so for almost an indefinite number of years, and the pipes for conveying the water, if formed in the first instance of material strong enough to resist the pressure, will also be of a permanent character, requiring but little outlay for repairs or renewal. Hence where the position is favourable for the working of a turbine wheel, the working expenses for the whole of the motive power on a farm, become reduced to a mere trifle over the interest on the sum expended in erecting the works. As the power of the turbine can be doubled by having a well underneath the wheel, equaling in depth the height from the wheel to the reservoir, and into which the water rushes through an air-tight pipe, it often happens on surveying the ground and taking the elevation that water-power can thus be made available in situations where at first sight the idea seemed almost preposterous. It is quite possible that in many cases considerable difficulty would be experienced in getting rid of the water from such a depth; but this difficulty overcome, the rest of the problem is of comparatively easy solution. A wheel of 10½ inches in diameter will work up to the power of three horses, sufficient to drive a thrashing mill of modern construction, which will both shake the straw and partially clean the corn. With this motive power we see no necessity for greater strength on farms of moderate extent, whatever the number of small machines requiring to be driven, as from the simplicity and economy of the working it is no loss to drive but one machine at a time. There are no elaborate preparations to make, no fire to

light and steam to get up, nor yet horses to be stopped from the plough, or whatever work they might be at, and go into the mill. In either of these cases it is of importance to work the chaffing, bruising, and crushing machines at one and the same time, if their arrangement affords facility for so doing, a certain amount of expense being unavoidable every time the motive power is applied. With the turbine it is quite different, as by turning on the water, and slipping the belt on the machine, corn may be thrashed and cleaned, furze cut and bruised, hay chaffed, oats crushed, and turnips sliced or pulped, all being done just as wanted, no collecting of a number of hands being required, as in the case when all are worked together, and the expenditure is limited to the single item "attendance." On the occasion of starting a turbine wheel for the first time some caution is necessary to prevent injury from gravel, chips, or other rubbish being carried into its interior by the rush of the water, causing serious injury, or even perhaps total destruction. It may easily be conceived that such an incident occurring at the very outset after all the expense, and such an infinity of trouble had been gone to, would be most disheartening, the delay occasioned by the necessary repairs being executed, adding of course greatly to the annoyance. Much trouble may be avoided by permitting the water to flow for a few minutes previous to starting, so as to cleanse the pipes from all foreign matter which may have inadvertently got in while the works were being constructed, the water being admitted to the wheel when it was seen that all danger of injury had passed away. In feeding furze largely to cattle much loss will be occasioned unless it is bruised after being cut; the machines, if possible, being placed one over the other, so that it will fall from the knives of the cutter, directly into the hopper of the bruising machine. When this cannot be accomplished they may be placed easily in such close contiguity as that a man can shovel the shred material from the one to the other without changing his position. The furze bruiser is an ingeniously constructed, yet exceedingly simple machine, admirably adapted for the purpose intended, and has a threefold action on the furze, tearing, crushing, and softening before permitting it to leave the rollers. However sharp the spines may be, or however strong the woody stems, the one is rendered so completely inert, and the other so thoroughly smashed up, as to enable any animal to clean its trough to the very last particle, and moreover to do so with the greatest apparent relish. The most efficient machine we have yet seen for softening the furze and rendering it of easy mastication, consists of four rollers set equidistant on a powerful iron frame, each roller being provided with 24 saw-toothed discs, five inches in circumference, and just set so far apart as to enable them to work into each other without friction. After passing through this machine the furze may be squeezed in the hand with impunity, this being test sufficient, and any attempt at further complication with the view of reducing it to a kind of pulp is a mere waste of time and labour, and the money is spent in producing a result which is wholly unnecessary and superfluous. When a field or a portion of a field has been laid out as a furze meadow, the proper machinery for its preparation provided and fixed permanently in its place, and its entire working reduced to a system, it is astonishing what a saving of more valuable food is effected by its use. A five-acre meadow will give a stock of 50 head of cattle and horses a feed twice a day for three months, the animals enjoying excellent health, and if supplied with a moderate share of turnips keeping in good condition as well. To extend the period to five months, the time during which it is in perfection, viz., from 1st of November to 31st of March, the furze may with great propriety be mixed with equal quantities of chopped hay or straw, on

which mixture they will do well, dry cattle in this case requiring no turnips or other roots until the spring is well advanced. Mixing it in this way we consider preferable to giving it alone, however small the quantity of chaff used, if for no other reason than that it affords variety, and in consequence must aid materially in preserving the animals in health. There are few men who have given this article of cattle food a fair trial, who would relinquish it without great reluctance, and doing so only on account of their own removal from a furze-growing district. In Wales, in the north of Scotland, and in the south and west of Ireland furze is used extensively as food for cattle and horses, and its peculiar merits fully appreciated, the produce of the furze meadow or brake being regarded as a most valuable addition to the usual feeding crops raised on the farm. It is easily established, sown down with a corn-crop at the same time and manner as grass seeds, it is fit to cut in November of the following year, affording an immense crop if pains have been taken in sowing, and a regular hit secured. Without manure or any other trouble further than that got by cutting it, it continues to supply a large amount of food for many years, and if it becomes necessary from apparent exhaustion of the roots to renew the meadow, it can be ploughed up, cleansed, and again laid down with a corn crop, losing only one season's cutting. Contrary to what is the case with the majority of plants, this seems to do quite as well when sown on ground previously occupied by furze as it does when sown on an entirely fresh field.

THE DOUBLE-FURROW PLOUGH.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—It may interest some of your readers to know that the double-furrow plough, which is generally looked upon as a *modern invention*, dates back in point of fact more than two hundred years; for I have in my possession an old book on farming, by Walter Blith, and dedicated to Oliver Cromwell, containing a sketch and a full description of one. After showing how to make such an implement, the writer concludes by saying, "which plough, thus marshalled, you may well plough upon ordinary arable land that is in good tillage a double proportion, and also upon fair clean lay turl, and this you may manage with two men and four good horses, but not either upon strong land or rough land. The description and discourse whereof I give not in as of any great advantage above the other plain plough, but for variety sake, and to provoke others to the amendment and perfecting of this discovery; yet I for present see not, but it may be of excellent use and expedition upon many lands in England."

Hence it appears that in those days they found two men and four horses necessary to work it. The plough shown in sketch is simply a combination of two ordinary ploughs (the leading plough having a beam about twice the length of the other) braced together with cramps, leaving a space between equal to the breadth of a furrow. Only two handles or "tails" are shown, attached to the hindmost plough, so that one man of the two mentioned was evidently employed in leading the four horses.

Walter Blith also refers to a plough with a harrow affixed, and also proposes to make "a plough, harrow, and seedman (a drill), and all in one plough to work all at one time;" so that he was evidently a most ingenious man, and in advance of the age in which he lived. I remain, sir, yours very truly,

H. S. HARLAND,

Brompton, York, April 26, 1871.

THE AYRSHIRE FARMERS' CLUB.

At the annual general meeting held at Ayr, Mr. Brown in the chair,

Mr. B. M. CUNNINGHAME read the following paper on "Some of the Hindrances to Agriculture": At this advanced age in the history of the world, and more especially in this country, where Christianity has been professed and practised for centuries, one would naturally have thought that all impediments to the advancement of agriculture would have been entirely removed; and not only so, but that every possible encouragement would have been given to whatever might prove an incentive to the furtherance of that profession which has for its object the production of food for man and the lower animals, is conducive to the welfare and prosperity of the whole human race, and is of paramount importance to all others. But, instead, of helps for the promotion of agriculture, what do we find? Why, as if the curse pronounced on the ground after the *fall* was not of itself a sufficient drawback, man himself must interpose fresh obstacles in the way of its thorough cultivation. Passing strange that those whose chief income is derived from farm-rents should be the principal parties who frame and uphold laws, and impose other prohibitions anent the management of land, which are not only injurious to their own interests, but also highly inimical to the whole community. Then, again, the extent of land in this kingdom being limited, and the population large, an immense quantity of food of all kinds has to be imported from foreign countries. It is obvious, therefore, that the nation has a deep concern in the full development of the resources of this limited area, and that all obstructions should be removed which tend to prevent the full and free application of skill and capital to the soil. Farmers are becoming more and more alive to the position in which they are placed, for it is evident enough that, owing to the circumscribed area of land suitable for agricultural purposes in this country, rents will continue to advance; and as servants' wages, manures, &c., are all steadily increasing, the question forces itself on us—How are we to meet all these advances? How, but by the removal of everything which militates against the production of larger crops, alike of grain, grass, and roots. The first hindrance I shall allude to is the Law of Hypothec. This subject having already been discussed at a previous meeting of the Club, my remarks will be brief now; but, being the principal cause of most other hindrances, I must put it in the forefront. So long as this iniquitous class-law is maintained, tenant-farmers will be exposed to many evils. It places us at a great disadvantage in making contracts, and we are obliged to agree to restrictions in leases, and conditions as to cropping, &c., which are neither fair nor reasonable. The late John Gray, of Dilton, than whom there were few better managers of an estate, or who more correctly understood the relation of landlord and tenant, said in public on one occasion—"The letting of land is a commercial transaction. In the contract between landlord and tenant there must be, as in all other commercial contracts, a strict exchange of equivalents, if both parties are to reap from the transaction all the advantages properly incidental to both." We only want a fair field, and seek no favour; but this law gives special protection to landlords to enable them to encourage the competition of men whom, were it abolished, they would not deal with. This law also operates against an increase in the produce of land (which is a great national loss) from the encouragement it affords to enter a farm with insufficient capital. I believe scarcely a greater evil can attend a farmer than struggling to cultivate land with half the requisite capital: he cannot possibly farm it with advantage to himself or anyone else. Were anything like sufficient capital employed in farming the cultivated lands of Scotland (there are still large tracts of land lying comparatively waste capable of improvement and cultivation), one-third more could be produced therefrom than is being done at present. To my mind the worst feature in this notorious law is the barbarous power with which it invests a landlord to injure a tenant's character and credit through sequestrating for rent before it is due. Probably I shall be told that this seldom happens. Be it so,

Still, no man should be so armed by law that he might even, from mere caprice or malignity, perpetrate such a wrong on his fellow-man. In the late debate on hypothec in the House of Commons, one of the speakers, who is in favour of upholding the law, said, in regard to the power landlords had to sequester for rent not due, "that it was both unjust and unreasonable." Methinks, if the same gentleman and his friends would look into the subject a little more closely, and study it in all its bearings, they would soon come to acknowledge that the same epithets, "unjust and unreasonable," might, with equal propriety, be applied to the law as a whole, and thus support its entire abolition. The next hindrance I would notice is that caused by the working of the Game Laws, and here too my remarks will be few. Good and successful farming cannot be carried out where much game of any kind exists, and I believe that wherever landlords themselves have attempted to carry out high farming by growing expensive green crops, and at the same time strictly preserve game, they have found it to be an entire impossibility. Those two cannot walk together, for they are utterly incompatible the one with the other. In my opinion, one of the greatest absurdities of the Game Laws is, that they cut at the root of all liberty of the subject—that privilege which ought to be enjoyed by all good citizens in this free country, viz., self-defence. It is understood in all well-governed kingdoms that a man is free to protect himself and his property against all depredators; but alas, alas! it is not so in the case of the Game Laws. They override all such prerogatives, and consequently are entirely at variance with righteous judgment. How long we are to submit to such an abuse of power by our legislators is a question which will force itself on the people of this country, who (goaded on by the exorbitant price of beef and mutton, caused partly by the loss of crops from the ravages of game, and the clearance of large sheep walks to be converted into deer forests for the gratification of the few at the expense of the many) will speedily demand that the Game Laws, which are not only a fruitful cause of irritation and bad feeling between landlords and tenants, and thus a hindrance to agriculture, but also entirely antagonistic to the best interests of the nation, should be entirely abolished. The next hindrance I would refer to is the want of what might be designated "Tenant-Right," or, in other words, compensation for permanent improvements and unexhausted manures, &c. The want of such a system hitherto in Scotland has been the cause of much land becoming deteriorated and impoverished towards the close of a lease, and more especially where the tenant is doubtful of a renewal. Now, this is not only an injury to landlords and tenants, but it also entails a great loss on the nation, which ought to be guarded against. How this is to be accomplished is a matter likely soon to command public attention, and is of vital importance to agriculturists. There are differences of opinion amongst farmers as to whether a tenant drawing nigh the close of his lease can with benefit to himself impoverish the soil. I am one of those who think that his true interest is to keep up high cultivation to the very last crop. To prevent in part the deterioration of land, it would be highly beneficial, where there is no desire for change on either side, that new arrangements should be made two or three years previous to the expiry of a lease; but doubtless for the permanent maintenance of land in a high state of fertility more is needed, and something like the system obtaining in several districts in England, where payments are made for improvements executed and for manures left in the ground by the outgoing tenant, should be made compulsory by law on removal. It would be but common fairness, that when a tenant has sunk a considerable amount of capital in improving a farm, he should, when compelled to leave, be remunerated for his property left in the soil; and on the other hand, if the subject be deteriorated, the landlord should be indemnified for the loss sustained. But it is very hard in the event of the death of a tenant, or even his bankruptcy, that the heirs—who may be unable to continue to carry on the farm—or creditors should have no claim on the capital laid out in enriching the farm,

from which outlay the landlord reaps considerable benefit in increased rent when relet. The resolution proposed to the Lord's Committee by Earl Grey would have counteracted in part this hardship, viz., "When the lease of a farmer became void by his insolvency, his creditors should have the right of calling upon the landlord either to pay them the fair value of the unexpired term of the lease, or to sell that lease to a new tenant, adding the price obtained for it to the devious assets of the bankrupt." Strange to say, this amendment, although in accordance with equity, had to be withdrawn. I was not a little amused the other day when reading a discussion on the Lord Advocate's Education Bill, which took place in Edinburgh. A certain landed proprietor when showing the advantage of having the Bible in schools, said, "That as every man in this country was supposed to know the law of the land, children ought to be taught the Word of God, on which the laws of the country were founded." Now I take leave to say, and that most respectfully, that the law of landlord and tenant in Scotland breathes anything but the spirit of that most blessed Word, and is utterly at variance with it in very many of its enactments, as may be gathered from the letter on the "Occupancy of Land in Scotland," which was lately sent by several of our brethren to Mr. Gladstone. I sometimes hear an expression like this from farmers, that they (farmers) are the most independent class in the country. Independent! forsooth. Go and peruse that letter again, and then boast of your independence if ye will. The next and last hindrance I would make mention of is the insufficiency of farm cottages for our ploughmen and labourers. This is a very serious drawback, and a crying evil which cannot too soon be remedied; and I am sorry to say it is one which is peculiarly applicable to the Ayrshire. The bulk of the farm cottages in this county are constructed on principles of sheer sordid economy, with very little regard to the health or comfort of the occupants, and with no regard whatever to their self-respect and to the proper tone of their moral feelings. In case anyone should think that I am making an exaggerated statement on this head, I shall here give the evidence of a gentleman who lately visited the county for the purpose of reporting on this very subject, in connection with the "Commission on the employment of children, young persons, and women in agriculture." Mr. J. Henry Tremenhare, assistant commissioner, says regarding farm cottages in Ayrshire—(*Fourth report*): "The inadequate supply of cottages for the agricultural labouring class and their deplorable condition present a marked contrast to the high cultivation and general prosperity which are everywhere conspicuous in Ayrshire; and in no county in Scotland can the wants and comfort of the rural population in that respect be more disregarded. Not only are cottages not built, but the old ones are permitted to fall into decay and ruin, and no disposition is shown to replace them. In some extensive parishes the cottages are not sufficient for a tenth of the labouring population, and in many of them there are no cottages at all. This great deficiency in one of the first requisites for the comfort and respectability of the labouring classes, is a subject of just and frequent complaint by tenant-farmers, who are under the necessity in consequence of employing unmarried men, and of lodging and boarding them in their houses. So strongly are the inconveniences of this deficiency felt by the farming community in Ayrshire, that it was suggested by more than one large occupier, that every landed proprietor should be compelled to build and keep in repair a number of cottages on every arable farm proportioned to its acreage or rent. Nor does this want of sufficient cottage accommodation affect only the interest of farmers. It has a most injurious influence upon the morals of the young adult population of a district thus circumstanced. They cannot marry unless they settle in some village or town, perhaps miles distant from their employer's farm; and so extensive are many of the parishes that even that resource would seldom be available. The natural result in an amount of immorality and illegitimacy, which, under different economical arrangements, might probably be altogether avoided. I proceed to describe the character of the cottage accommodation in those parts of Ayrshire which I visited, and which, I believe, may be considered, with few and unimportant exceptions, as typical of the whole county. The cottages have seldom more than one room, in which a man, his wife, and seven or eight children are often herded together, the younger children with their father and mother occupying

one bed and the elder children sleeping promiscuously in the other. Some of the smaller farmhouses, where several farms have been thrown into one, have been converted into labourers' cottages, but instead of being arranged for the comfortable accommodation of a married man and his family, they have generally been divided into two miserable dwellings with only one room in each. Very little has been done in Ayrshire by the landed proprietors, to supply the great want of proper accommodation for married labourers; but on some of the farms of the Duke of Portland good cottages, consisting of two rooms and a kitchen, have recently been built, and each dwelling is provided with a scullery, pig-house, and dry soil closet; others have one room and a kitchen, but it is made a condition where the cottage contains two rooms that only one bed shall be placed in the kitchen, and if the cottage contains three apartments that no bed shall be placed in the one where food is cooked and eaten. The Earl of Eglinton also erected a few good cottages on his estates in the Cunningham division of Ayrshire, but as the farms are generally small in that district, cottages are not so much needed as where the holdings are more extensive. Between Ayr and Girvan is the extensive property of the Marquis of Ailsa, which is laid out in large farms generally within a short distance of, or contiguous to, the sea. The ploughmen's cottages on this noble domain are lamentably defective. Stables, byres, cart-sheds, dilapidated farmhouses, and disused dog-kennels have been converted into abodes for the people who live on the estates. In some of these wretched places, consisting only of one room, as many as ten or eleven persons are living. The damp broken clay floors are covered with beds, the decaying thatch roof is pervious to rain, which in some cottages is kept out by gunbags stretched across the rafters. A considerable farmer, who rents one of the largest farms on this property, assured me that it was always with a feeling of shame and humiliation that he introduced a newly hired ploughman to one of these hovels as his future home. The characteristics of this rich district are fine farms, commodious farmhouses, and hovels such as above described. The late Marquis of Ailsa erected a few good cottages near his castle, Culzean, but the great body of landed proprietors in this county have not yet realised the importance to their own interest of providing suitable residences for the people by whom they are surrounded." He could corroborate Mr. Tremenhare in a great many of his remarks in regard to cottage accommodation. He found that he could not get first-class ploughmen to stay with him on account of the insufficient accommodation he could give them. This was all the worse, because the cottages on his farm had been erected within the last 30 or 40 years, but they only contained one apartment. He would go the length of saying that an Act should be passed, preventing any one from building houses for human beings with only one apartment. It was not in keeping with the age they lived in. He knew of two families of six or seven children, besides their parents, living in a single apartment, and during the last winter the whole of the children in one of these houses were laid down with fever. It was not only that at present this state of things was injurious to their interests, but children that were being housed in such a way must have their strength and vitality considerably impaired, so that, humanly speaking, they were likely to be worse off for farm labourers in the future than they had been hitherto. He would close with a few lines from that remarkable letter sent recently to Mr. Gladstone by the agriculturists of Scotland. He must say that until he read that letter he was not aware that the farmers of Scotland were in such a pitiable condition, and he believed few were aware of the enormous power landlords had over their tenants, according to the law of landlord and tenant. This letter began by stating that that law presented features which might excite surprise that they should ever have found favour, or have been so long submitted to, and it closed with these words, with which he would also conclude his paper: "Our desire is to bring to your notice, as the head of the Government, a state of things which we regard as essentially wrong, and which, we with some confidence trust you will acknowledge, calls at least for examination. But if we should be disappointed in this expectation, we believe the time is at hand when the gross injustice done to tenants by the present state of the law will become a capital question in Scotland, and when it can neither be so calmly considered nor so easily settled as it may be now."

Mr. YOUNG (Kilhenzie) had long held the opinion that no one thing would be of so much advantage to the future progress of agriculture as a wisely considered law, giving compensation for unexhausted improvements. In Ireland there was such a law at present; in fact it went much further, for it not only gave compensation for permanent improvements, but for what the law was pleased to call disturbance, which he thought very unjust and unreasonable, and a great hardship to landlords. But if they got a law for Scotland and England, giving fair and reasonable compensation for all such unexhausted improvements as would add to the letting value of the land, it would give an immense impetus to the agriculture of the country. For example, there were large tracts of land in this country unreclaimed, but no tenant, however enterprising, would do so under a 19 years' lease; but he believed if they had a law of this kind much of that waste land would be reclaimed. The effect would be to decrease pauperism, by providing a larger amount of employment, and to increase the food of the people, which would be a national advantage. He quite agreed with Mr. Cunningham that if a farmer by negligence or bad farming were to act in such a way as to deteriorate the value of the land, his landlord should have a claim against him for compensation. He believed if a law of this kind were tried by experience—the best and highest test they could apply—it would prove for the benefit of the landlord, the welfare of the tenant, and the good of the whole community.

Mr. CLELLAN (Knocklaw) said in the locality where he was situated, though near a large manufacturing town, they were experiencing a great drawback from the want of workers. Parties came from a long distance, where there was no cottage accommodation, and took away their workers, and they had to pay more for their labour on that account. Very few farms had cottage accommodation, and what there was was very much of the kind described in the report.

Mr. CALDWELL (Knockshoggle) said cottage accommodation was very much wanted; and not only cottage accommodation, but farm-house accommodation and office-house accommodation. There were a great many farms that would be greatly benefited, and, he thought, would be enabled to pay more rent if they had better accommodation for cattle and grain. Mr. Cunningham had spoken of Mr. Tremenhoe's visit to the county. He got a schedule from him and filled it up, and as he asked for any suggestions, it occurred to him to suggest that landlords should be bound to furnish a certain amount of cottage accommodation for a certain acreage; and that in the event of proprietors, as in some cases, being unable so to do, it would be well for the Government to give grants for buildings, to be paid off by instalments, something the same as under the Drainage Act.

Mr. STEVENSON (Silverwood) agreed with Mr. Clellan in thinking that the want of cot-houses on the farm pressed more on the farmers in the Kilmarnock district than any of the other hindrances that had been mentioned—at least they felt it more at present. Very few of the farmers in their locality had any cot-houses. He supposed they had been in the habit long ago of having young men who lived at a little distance off, and who got their food in the farm-house, and went home perhaps every night, or it might be every Saturday night. But they began to feel the want of these now more than they did in the past. Labourers were getting scarcer, and the young men were not so quiet and peaceable, and they did not keep so timeous hours as they used to do. Farmers now felt that when they could get a married man it was a very great advantage, but they felt the want of up-putting for them very much. He thought there was a little objection on the part of landlords to build these cot-houses. He did not know exactly what their objection was. Perhaps it might be thought that it would increase pauperism. He did not know whether that would be the effect of it or not; but, certainly, unless they got something of that kind, he did not know where in future they were to look for labourers. The want was beginning to be very much felt.

Mr. ROBERTSON (Ryeburn) said Mr. Cunningham had referred to two or three things that it needed a little courage for a tenant-farmer to take up in a meeting like this. He believed there was a class of landed-proprietors in the county who had an idea that this Club was organised with a purpose beneath that which came to the public. Some of them thought that the Club was a political combination as well as

an agricultural combination; and this was an idea that caused some parties to look upon this Club with a little lightness, and to say that it did not fairly represent the tenant-farmers of Ayrshire. There were one or two other things besides those stated by Mr. Cunningham which might be regarded as proving a hindrance to agriculture. One of them was that this country was getting like the land occupied by Abraham and Lot—it was getting too straight for those who used it. Another thing following from this was the very high competition which was now taking place for land, and the rent people were compelled to pay for it cramped them in an injurious way, as they had not the capital left to expend on the land necessary to bring it to perfection. Whenever a man came to be hampered for capital to manage his farm, instead of increasing its productiveness in his hands it would decrease. One thing he could have wished Mr. Cunningham had brought out, was not only to state what the hindrances to agriculture were, but how these were to be overcome. He believed there was no farmer but was feeling less or more what had been brought out. For instance, nearly every farm that came into the market had its rent raised considerably—20, 30, or 40 per cent. Now he knew that there were farmers who desisted from improving their farms, just in the fear that they would have at the end of the lease to pay for their own improvements, or that somebody else would take the farm and reap the benefit. But how were they to get a remedy for this?

Mr. CUNNINGHAM said he proposed that landlords should pay for unexhausted improvements.

Mr. ROBERTSON said if they had such a law as that, it would give great comfort to many farmers with whom he was acquainted, and they would go on with a freer hand in the management of their farms. It would also tend more than anything he knew to establish a better feeling between landlords and tenants.

Mr. JOHN LINDSAY (Ayr) said it was difficult to say which of the four hindrances that had been referred to was the greatest. The necessity of compensation for unexhausted manures and for improvements seemed to him to rank very high in importance. There did not seem to be any practical difficulty in the operation of such a measure. It had been in operation for some time in England; and in fact had been called into existence there more naturally, owing to the want of leases. The fact that it was in operation there, and had proved perfectly workable, should encourage them to seek to apply it to Scotland. It was quite well known to them in this country that many farms at the expiry of a lease were very low in condition. The farmers who entered upon these farms found that five or six years at least were required to bring them to anything like condition; and then the same interest that impelled the previous tenant to reduce the condition of his farm, impelled his successor as his lease drew near a close to do the same thing again. So that for five or six years at the beginning and five or six years at the end of a lease, the land was in condition only to produce about half of its natural results. The consequence was a loss to the community which, totalled, was something enormous. On that account the question of compensation in his view was a very important one, and not a difficult one to deal with.

The CHAIRMAN said he entirely approved of the views expressed regarding compensation, which could be easily carried out. It was a very important thing, and more particularly now that some of the proprietors were trying to get their tenants to work away without leases.

Mr. WALLACE (Breahead) thought the third head was the most important part of Mr. Cunningham's paper. If they had a proper compensation clause, he thought they would be all right. He had not much faith either in mere amendments of the law, or in leases. The great thing was to have good men to work with. He thought they might take a leaf out of the proprietors' book and select their landlord just in the same way as the landlord selected his tenants. It was possible they might be taking a rather one-sided view of some things, and he had been trying to weigh in his own mind whether there were not grievances chargeable against themselves as tenants. There was one thing, that often when a proprietor took as interest in his tenants and came amongst them as a visitor, the tenants were ready to pounce upon him with their grievances. Now, let them think how they would like if every time they were going out amongst their workers, they were to be pounced upon for higher wages, or for some repairs to their

houses. Would they not go past them as often as they could? It was right to bring their grievances before their landlords, but in a business way and in a business place. Let them go to the mansion-house or office and meet the landlord or factor in a friendly way, instead of boring them with words whenever they chanced to meet. Many of their grievances might be got rid of in that way, if they got their proprietors really to take an interest in their affairs. When he began farming he was very much encouraged both by the very judicious manager and the proprietor of the estate; and when he ventured to do a little improvement he never failed to get encouragement. If they got proper men as landlords they would be much better with leases, provided they had a proper compensation clause. He had changed his mind about leases; he questioned if they were much benefited by them. He believed instead of short leases of ten years or so, they would be much better with yearly leases and a compensation clause.

Mr. YOUNG (Kilhensis) expressed his dissent from Mr. Wallace's opinions in regard to leases. There should be both leases and a compensation clause, but no tenant would go on with improvements if he was liable to be turned out of his farm at any time. The compensation principle would undoubtedly be for the benefit of the landlord.

Mr. CUNNINGHAM, in replying, admitted that there were hindrances to agriculture which he had not taken up, such as the law of entail, and of primogeniture and the system of feudal tenure under which land was held. There was another which might be rectified by farmers themselves, viz., the want of an experimental farm where the science and practice of agriculture could be learned. All other trades and professions had training machinery provided; but for the management of land, one of the most important businesses on the face of the earth, there was no special education put within their reach. He thought this was a matter worthy of the attention of the Highland Society, and of their own County Association. Mr. Wallace seemed to think he could do without a lease if he had the clause about compensation. He would say that both together would be the right thing. Without security of tenure there was no inducement to men to improve land or anything else. His own opinion was that if the law of hypothec were abolished it would pave the way for the other hindrances being removed. So long as this law was maintained farmers must either agree to the conditions on an estate, or leave the country; and so long as hypothec existed they would get men to come forward and agree to any conditions. There would never be a real reform in agriculture until that law was abolished.

BOROUGHBRIDGE AGRICULTURAL ASSOCIATION.

FARM AGREEMENTS.

At the last quarterly meeting, Mr. A. S. Lawson in the chair,

Mr. THOMAS SCOTT, the vice-president and secretary, opened a discussion on farm agreements. He said the well-being of our country depends much upon the state of agriculture, and the success of our farming is based greatly upon the understanding between the owners and occupiers of the soil, and upon the feeling which exists between one and the other. In order that there may be no misunderstanding between them, and that all undertakings may be leased upon a business footing, an equitable and reasonable agreement is most desirable, by which much unpleasantness and even litigation may be avoided. This document should be drawn up in such a manner that the landlord shall neither exercise undue authority over his tenant, bind him to impracticable courses, or restrain him in any way which may cripple his efforts in pursuing the most profitable course; yet every tenant should be bound to farm well, for we know that to farm land otherwise is at once an abuse of trust, a robbery upon the community at large, an injury to the landlord, and a waste of time and talent. We would therefore have an agreement so far stringent as to enforce good farming; but to a deserving tenant let the conditions be elastic, and give him all his own way, no matter how he crops, stacks, or tills, so long as he sustains the fertility of the soil under his care. Allow him to alter or vary his rotation of cropping, so as to regulate his produce to meet his times; that is to say, if grain is comparatively dear, let him take as many white crops as may be consistent with the quality of the land. On the other hand, a judicious farmer will produce all the green crops he can when animal food is dear; and allow him to sell off any produce which he may be able to do to his advantage, so long as he is purchasing artificial food in lieu thereof. In farms which are frequently changing tenants it is, indeed, painful to witness the gradual deterioration, and consequent loss to the country, as well as to those more directly interested in such farms. Now this loss which invariably takes place, more or less, whenever a farm changes hands, I think might be mitigated to a great extent, if not altogether remedied, by the introduction of a clause giving compensation to the off-going tenant for unexhausted manures, and for all permanent improvements which may enhance the value of the property. If these were judiciously carried out, no material change in the appearance or resources of a farm would occur. If the tenant contemplated leaving, or had to quit from unforeseen circumstances, the farm would not suffer, and the tenant would, in either case, be protected and compensated, whilst the landlord, or his suc-

ceeding tenant, would be alike benefited. We will presume a case. When a farmer anticipates leaving his farm he generally acts with caution, and, as it is called "farms to leave," he spends as little as possible, and gets what he can out of the land regardless of its deterioration. Such a course is admitted by all practical men to be fraught with loss. The tenant does not make money by it, yet he feels satisfied that he is leaving nothing in the place for his successor, whom he fairly calculates will not thank him for what he may leave. It necessarily follows that the farm is much reduced, and it not unfrequently takes the succeeding tenant three or four years to restore it to its natural state of fertility; hence a loss of time, say five or six years, during which period the farm is profitless, as the produce is not equal to what it is calculated to grow under generous treatment. As such cases are numerous throughout the country, an immense national loss is the result, which ought if possible, to be remedied, and which I think might be, with a fair tenant-right allowance. As various modes of farming apply to different districts, it would be presumptuous in me to attempt to draw up an agreement which would be applicable to every district, even in this county; I have, therefore, framed what I intend to introduce for discussion to-day so as to meet the requirement of this locality. The subject has for some years had a good deal of my attention, during which time the clauses of my agreements have undergone numerous alterations and additions, which from time to time I have from observation and practical experience found necessary, and which, I flatter myself, is now so modified as to form a fair, just, and equitable agreement between the proprietor and occupier, so that the latter shall feel himself almost as secure and pretty well in the same position as if he were farming under a lease to which landowners generally have so great an objection. To a close observer of country affairs, it is at once painfully obvious that some alteration it needed to remedy the present unhappy state of things in our poor-land districts, especially where a great portion is under the plough. The appliances of improved machinery and chemical discoveries, which have aided the good-land farmer in augmenting his crops to meet increased rents and expenditure, which are quite 25 per cent. more than they were 50 years ago, appear to have done little to improve the condition either of poor soils or of those who farm them. And, were it not that land had an improving value, a great portion of our poor soils, regardless of the facilities offered for their improvement, would have been worthless by 25 per cent. than they were a century ago; due in a great measure to the needy tenants having been allowed to plough up the grass land, in lieu of which they engaged to lay down

other land, under a plea that it required a rest. The consequence was that so laid away in its miserably impoverished condition it became comparatively waste land, in which state it still remains. I would urge the policy of the owners of such estates giving this their attention, and meeting their tenants in every reasonable way in aiding them in improving their several farms, and in laying down to grass as much as possible such land as does not meet the expenses of cultivation; not by merely sowing it when in a foaled state with hay seeds of questionable origin or kind, but by having it thoroughly cleaned and sown without a corn crop, with seeds selected to suit the climate and character of the soil. To ensure an early and permanent sward, lime, bones, or other fertilisers ought to be used, to the cost of which the owner of the land might fairly contribute so far as the case seemed to demand. On the other hand, we have numerous estates of this class, the value of which, during the last century, has been almost quadrupled, and which are examples of what can be done by landlords paying attention to the improvements of their estates, and by assisting liberally such tenants as, by their skill and energy, gradually improve the land, and ridding the helpless ones, who merely waste their time and money, and are detrimental to all improvements; and ridding the helpless ones, who for want of capital and energy are unequal to their undertakings; but, who are deluded by the expectation that times will mend and improve their positions, whereas in the majority of cases, the little capital is frittered away, and at last tenant and farm are alike reduced to poverty, the former is quitted by excusing part of arrears or some other indulgence, and the latter is left in such a miserable plight that an outlay representing two or three years' rent has to be expended upon it ere it is worth the attention of an eligible tenant. Although I flatter myself that the agreement I am about to submit for your criticism is a fair one, I trust that I shall be assailed on every clause, for, if so, I am sure that we shall learn from each other some valuable information, for which purpose I believe we have assembled here. Mr. Scott then read a form of agreement which he thought suitable to the district, in which he recommended landowners to encourage in every way eligible tenants, and the adoption of a compensation clause he considered desirable to meet the fair claims of the off-going tenant.

The Rev. C. H. SALE inquired when guano was applied to the soil whether anything remained of that fertiliser on arable land for a third crop.

Mr. JACOB SMITH replied that in his opinion none would remain at all.

Mr. SCOTT said that Michaelmas was the best time of the

year to enter upon a farm. October was the first month of the farmer's year, as he commenced his year in October by working his land. He considered that it would be better if the incoming tenant was admitted to his farm in October.

The CHAIRMAN said in that case they would have to alter the whole course and custom of the country.

Mr. JACOB SMITH said that if they grew two white crops in succession, with one-fourth of the land in green crop or in fallow, they must go upon a five-course cultivation. He advocated a liberal allowance of tillages and in that part of the country the use of tillages and cake had wonderfully increased. In his recollection the increase had been most remarkable in that neighbourhood, for large numbers of farmers who twenty, and even ten, years ago, never used tillages at all, were now applying them liberally to their land. Farmers who thus dealt liberally with their land and kept it in a high state of cultivation ought to have some safeguards, and he suggested the adoption of an equitable system of tenant-right, expressing a hope that in time they should possess the advantage of such a system in that district. The Council of the Yorkshire Agricultural Society had offered liberal prizes for the best examples of profitable farming in the county, but he should have much preferred the Council giving to the members of the Society the opportunity of having their manures analysed by a properly qualified man of first-rate ability as an analyst. This would have been a better mode of expending the money than in laying it out in prizes upon the best cultivated farms. With regard to the subject of artificial manures the farmers of this country, as they were well aware, were defrauded to an enormous extent. It was high time that those worthless adulterated manures were put a stop to by some means or other. He was very glad that Mr. Scott had introduced the question of farm agreements, and he hoped that they should hear of it again.

Mr. SCOTT said that if he had two wheat crops in succession it would not follow that he had no more than one-fourth under root crop.

Mr. JACOB SMITH, in answer to Mr. Scott, said that entry at Michaelmas upon grass land was against the tenant, but upon arable land it was in favour of the tenant. The compensation clauses were likely to lead to fraud.

Mr. SCOTT said that the matter might be left to two arbitrators. The compensation clauses to be equitably adopted must depend to some extent upon the honesty of the off-going tenant. He believed that if compensation clauses were not adopted that eventually the question would be forced upon them by the Legislature.

HADDINGTON FARMERS' CLUB.

SPECIAL MANURES.

At the usual monthly meeting, Mr. Samuel Shireff, Saltcoats, in the chair, Mr. SAMUEL D. SHIREFF read a paper on "What special manures should be used as auxiliaries in raising the cereal and green crops usually grown in the county."

He said: There is now greater necessity than ever for the discussion of such a question, from the fact that the supply of pure Peruvian guano is nearly exhausted. In short, it has become so dear and so scarce, and the quality so varied, that merchants will not guarantee its quality. It is true that a very good substitute has been found in the best class of Ichaboe; but this guano is also scarce, and very nearly exhausted, and at present the great problem to be solved by the combined agency of agricultural chemistry and field practice is the possibility of producing artificially a manure equal as a fertilizer to the best Peruvian guano. Our agricultural chemists can tell us perfectly by analysis the component parts of Peruvian guano, but I am prepared to defy any manufacturer to make it. He might produce a manure similar in analysis, but not capable of producing the same results. At least such is our present opinion, and nothing would give us more pleasure than writing our opinion wrong, and acknowledging to the best in our power the talent, the genius of the man who can give to agriculture a manufactured manure equal to Peruvian guano. I have often heard some of our best farmers remark that all ex-

periments merely tended more and more to show the superiority of Peruvian guano over all other manures, therefore it was so use repeating them. This would have been all very well had we been certain of a continued supply of Peruvian at a reasonable price. Experiments were made by the Club some time ago, with the view to find the best substitute for it, and also to try the possibility of growing good crops of Swedish turnips with artificial manure alone. A committee was formed, of which Mr. Hope, Fentonbarnes, was convener, and the following series of experiments were agreed upon: E, 12 tons farmyard manure and 4 cwt. Peruvian guano; D, 6 cwt. Peruvian guano and 2 cwt. dissolved bones; C, 6 cwt. Peruvian guano and 2 cwt. bonemeal; B, 6 cwt. Peruvian guano and 5 cwt. Bolivian guano; A, 8 cwt. Peruvian guano. The above experiments with more than 6 cwt. Peruvian guano. 1, 6 cwt. Peruvian guano; 2, nitrate of soda and phosphates, same manurial strength as 6 cwt. Peruvian guano; 3, sulphate of ammonia and phosphates, same manurial strength as above. 1, 2, and 3 are experiments with ammonia from the three great sources. 4, 3 cwt. Peruvian guano and 5 cwt. Bolivian guano; 5, 3 cwt. Peruvian guano and 5 cwt. bonemeal or dust. 4 and 5 are experiments with ammonia and undissolved phosphates. 6, 3 cwt. Peruvian guano and 5 cwt. dissolved bones; 7, 3 cwt. Peruvian guano and 5 cwt. bonemeal superphosphates. 6 and 7

re experiments with ammonia and dissolved phosphates. 8, $\frac{1}{2}$ cwt. nitrate of soda, 2 cwt. dissolved bones, 2 cwt. bonedust and 2 cwt. Bolivian guano. 8 is an experiment with nitrate, dissolved, and undissolved phosphates. Each experiment made in a quarter of an imperial acre, measured thus, the drills being 7 inches wide: 8 drills, equal to 6 yards wide by 201 $\frac{1}{2}$ yards long, equal to 1,210 square yards; 12 drills, equal to 9 yards wide by 134 $\frac{1}{4}$ ths long, equal to 1,210 square yards; 16 drills, equal to 12 yards wide by 101 $\frac{1}{4}$ ths long, equal to 1,210 square yards; 1,210 yards equal to $\frac{1}{4}$ of an imperial acre. Mr. Shireff then submitted a long table of results of the above experiments, from which, he said, one thing is distinctly proved—the superiority of farm-yard manure and guano, which gives the largest produce over the rotation. Eight cwt. per acre of Peruvian stands second; 8 cwt. Peruvian guano and 5 cwt. one-meal, third. This is an argument in favour of bone-meal in preference to the best bone-ash superphosphate. But the difficulty lies in this—One manure may be said comparatively to exhaust itself by doing a great deal the first year. For example, No. 7. The experiment with guano and dissolved bone-ash stood first with turnip crop, even when turnips are all eaten on the ground. Perhaps an immediate return in the shape of a better turnip crop is most advantageous to the farmer. The difficulty now is to get real good superphosphate. A mineral superphosphate on many soils will grow quite as large a crop as a bone one, when the two are mixed. No chemist can detect the proportions, and I think the best plan is to purchase a well-manufactured mineral superphosphate, which can be sold at about 24 or 24 10s. per ton, and bone-meal at 28 10s., and mix the two at home. I do not think it so profitable for farmers to buy mixtures. They may do so to save themselves trouble, but I cannot see how any one living in town can prescribe for soils he does not know the texture of. It is just like a doctor prescribing for a patient he did not know, and probably never saw. But to turn more particularly to Mr. Harvey's motion, viz., the best special manures to be used as auxiliaries in raising cereal and green crops in East-Lothian. There is no doubt Peruvian guano is the best, and should be the basis of the mixture for every farm. To grow potatoes on the generality of soils in the county, I would prescribe from not less than 25 to 30 tons per acre of farm-yard manure and 5 cwt. Peruvian and 2 cwt. kainit salt. Without farm-yard manure, 5 cwt. Peruvian, 5 cwt. bone-meal, 5 cwt. rape-dust, 5 cwt. coprolite superphosphate, 2 cwt. kainit. Unless after grass which has been particularly well manured, less manure will not do. I find, by experience, it is far more profitable to manure a small portion thoroughly well than attempt a large acreage with moderate quantity. You will grow more potatoes in the small piece. Turnips will grow a large crop with half the manure required for potatoes—i.e., if the season is favourable. A doubt existed regarding the possibility of growing swedes without farm-yard manure, but this has been proved a fallacy long ago. On land in good condition, 11 cwt. per acre of the mixture I proposed for potatoes will grow a fine crop. For the cereal crops—For oats: Peruvian guano, or 3 cwt. per acre with the seed is most profitable, although top dressing with nitrate of soda or sulphate of ammonia is very beneficial, but it is often difficult to get a favourable sowing to wash it in. For autumn wheat—3 or 3 cwt. per acre guano and 1 cwt. salt. I have found Lawson's phospho-guano a most admirable manure for winter wheat. The best spring top dressing is a mixture in equal proportions of sulphate of ammonia, common salt, and Peruvian guano—4 cwt. per acre. For barley—Peruvian guano and salt; 3 cwt. Peruvian and 1 cwt. salt. For hay—1 $\frac{1}{2}$ cwt. nitrate of soda, 1 $\frac{1}{2}$ cwt. Peruvian. For the last two seasons we have scarcely been able to trace any effects from the top dressing; but it has been remarked that the second crop is generally better after Peruvian guano than nitrate of soda applied alone. Now, if we are asked by anyone who reads these various applications of artificial manures, "What would you apply instead of Peruvian," it would prove a puzzle, and agricultural chemists will never find out a substitute unless they are assisted with field experiments on a large scale. One would suppose that a manure very nearly approaching Peruvian guano could be manufactured from a mixture of the best phosphatic guano and sulphate of ammonia. I do not think so. I believe a mixture might be made to yield the same analysis, but the deposit could require to be exposed to the same atmospheric influences as the Peruvian guano has experienced; in fact, to lie on some

arid rock for a thousand years. One thing is, we must be thoroughly careful whatever manure we use, and be certain it is pure. I take samples of all the manures used every year, and have them analysed. The expense is trifling compared to the sum spent, and it must be satisfactory to merchants, to hear a good report. The other side of the picture we need not dwell upon. In conclusion, he expressed the wish that this club would arrange a series of experiments with the turnip crop, in order to ascertain the best substitute for Peruvian guano. Mr. Shireff then read the following extract from a letter which he had received from Professor Anderson in transmitting several analyses of manures: "I agree with you in the opinion that a more systematic occasion should be had to analyse than is at present customary; but I think that some means should be adopted to diminish the number of analyses. To the small farmer who buys a ton or two of manure the cost of an analysis made with proper care is a serious addition to his expenditure, while to the large farmer who buys £500 or £1,000 worth the cost of even half-a-dozen analyses is a cheap insurance which he acts unwisely if he omits. I have frequently, when occasion offered, urged on farmers the importance of combining for their own advantage, so that ten or twenty individuals around the same railway station should agree to take their manures from the same manufacturer, so that one or two analyses would serve for all; and if to this were added a record of the produce obtained from each manure, the results would, after some years had passed, far more than repay the labour expended on the experiments, and form a most valuable contribution to practical agriculture. A few co-operative associations of this kind have been formed, but none of them have fully carried out my plan, which would no doubt involve some trouble; but I think it well deserves a trial. There is another point on which I think farmers ought to agree, and that is a fair and definite system for valuing manures. Hitherto this has been left to the chemist, to whom it does not properly belong, and it is extremely unsatisfactory, because no sooner has a system been established which receives the support of some manufacturers, than others describe it as totally fallacious and even absurd, and it can never have the influence that a system originating with the farmers would have. I am satisfied that such a plan having once been established, would soon annihilate half the manufacturers of inferior manures."

Mr. HARVEY (Whittingham Main) thought it would be admitted by all that what was sold as saline manures had the most immediate effect, and in dry seasons they could not give the land too great a quantity; but if they happened to get a wet, cold summer they were perhaps calculated to do harm. Farmers were, therefore, much at the mercy of the elements, even after spending a great deal of money on manures. He had not had so much experience of bones, but Peruvian guano seemed to suit both cases, and in top-dressing wheat, barley, or oats with it it was not easily overdoing it. He had been accustomed for several years to get the guano which Mr. Brodie sold, and to mix it half-and-half with Peruvian. Generally speaking, if the land was in good order, 2 or 3 cwt. per acre was successful in producing a good bulk of wheat; but according to their soil and climate, farmers must profit by their own observation and experience in using any manures.

Mr. HARPER (Snawden) referred to the vast increase of artificial manures now used by the tenant-farmer compared with those used by the last generation, when only the dung made on the farm was utilised for growing the green crops. Then, when the dung was finished, the remainder of the fallow-break was summer-fallowed, and sown with wheat in the autumn, and the rest of the manure scraped during the summer time was applied to it. That manure, he dared say, was very little worth, for it was mainly made of straw, fermented by water. And yet the turnip crops raised in these days, he was told, were good, and wheat was far superior in quality to that raised now. The land was, of course, comparatively new to turnips, and, he dared say, was far less cropped than now; but in these days plain farming and high rents did not correspond. Then, again, no matter what manure was used, where the game was highly preserved, the returns from crops were always unsatisfactory, if not ruinous. As a rule, he cropped grass land three or four years, and he never top-dressed it except for tares, which he sowed after lea. This enabled him to be more liberal in his supply of manures to the turnips. For the last two

motive-power of the animal, which is soft in condition, characterised by flaccid muscles, sweats readily, and thus becomes unfitted for fast or hard work. Seventhly: Improper food increases the liability, or predisposes them to many other disorders not digestive. Eighthly: All the expenses of cooking, or rather spoiling, good food is entirely lost. Taking the system altogether, we shall find it most expensive, as there will be loss in condition, loss in working capabilities, loss in market value, loss from disease or death, and last, although not least, loss from the veterinary surgeon's bill. We must advert to a practice much in fashion with the farmers of this district—that is, “chaffing,” as it is termed. This cruel, absurd, and pernicious custom may be explained in a few words. The carter enters the stable about 4 a.m., and at once begins his work by placing before the animal small quantities of chaff, together with a slight sprinkling of oats, to induce the animals to eat the chaff. As the manger is cleared, another small quantity is thrown in, until the animal refuses to eat more, and this will only occur when the stomach is very much distended. The “chaffing” process goes on for at least two hours. The great object of this system is to trick the horse into eating large quantities of chaff with as few oats as possible, with the supposition that if the stomach and intestines are filled with food, or, more correctly speaking, trash, they have fulfilled their duty in management to their valuable and noble helpmates. You will clearly apprehend from what we have said about the disadvantages of the increased bulk of cooked food that the same remarks hold good in this case, together with a greater tendency to induce intestinal disorders and broken wind. We are not astonished to see four horses yoked in a wagon to do the work which two could do if properly fed. This system has no analogy in nature, and must be condemned as unnatural, innutritious, indigestible, unhealthy, and expensive; in fact, we cannot say a word in its favour. Some may think it is economy to adopt this system of feeding; and where it has been ignorantly carried out, we hope a little correct information on the subject will cause it to be discontinued at once. It is our opinion that those farmers who feed working horses in this manner, knowing its unfitness, are devoid of humanity to their best servants, and quite unfit to have the care of such animals. We have spoken rather strongly on this subject; but we cannot speak more strongly than we feel. Bran is often mixed in large quantities with oats. This is also short-sighted policy, as it is so laxative in its effects as to cause the expulsion of the oats from the body before they are fit for assimilation. Bran may be used occasionally as a laxative with advantage. In continuation of this subject, let us examine some statements made with regard to animals fed upon proper principles. Mr. C. Hunting, of South Hetton Collieries, had upwards of 120 horses and pit ponies under his charge—animals who are placed in unnatural circumstances, with plenty of hard work. He says: “We have not lost a single animal from disease of any kind for six years.” Our own experience and that of many others who have thoroughly studied this subject would entirely corroborate the above statement. The principles of feeding we have attempted to prove are entirely founded on nature's laws; and if the members will make the experiment, we feel certain they will come to the same conclusion as ourselves, that cooked food and chaffing are pernicious in their effects. We will now advert to a most important and fatal class of disorders—viz., *enzootics*. These are wholly dependent upon local causes, which may be conveniently classified under two heads—viz., *natural* and *artificial* causes. The former includes peculiarities of soil and climate; the latter peculiar systems of cultivation, the quality of food raised, and the general management of animals. Where land is forced to the utmost to raise large crops in the shortest possible time, it is more than probable the food will be more or less immature—at least, we find these disorders rife under such circumstances. All *enzootics* can be referred to two opposite systems of feeding—either to excess of nutritious foods, or those deficient in nutritive constituents. They are rarely contagious, although it is believed by many stockowners that they are so, owing, no doubt, to the fact that many animals are affected at the same time, and in the same place. It is forgotten, however, that such animals are all exposed to the same exciting cause, which, it would be natural to suppose, would produce the same phenomena in a certain number of animals. If the artificial causes of such diseases

were clearly understood, stockowners would have in their own hands the means of very speedily eradicating that which so much interferes with their prosperity. Black Quarter, Black Leg, and Quarter Evil are a few of the names given to a disease which is also known by many other local terms. It is dependent upon the formation and development of an animal poison in the blood, and we must look upon its local manifestations or symptoms as a secondary result of the blood poison. It affects cattle and sheep, and may be looked upon as incidental to plethora. It is by far the most fatal *enzootic* that affects our stock. Very rarely animals over eighteen months old are attacked by it. When sheep are affected it is termed Black Spald, and is characterised by the same phenomena as are seen in the ox, so that in describing the one, we shall give you the phases of this affection in the other. Well-bred animals appear to suffer more from this disorder than under-bred ones, so that the purity of blood is a predisposing cause. It is seen to abound upon farms where the soil is retentive and badly drained. It also very frequently appears under other circumstances. There can be no doubt that the most frequent cause is a sudden transition from a restricted diet to a full and nutritious one, or from poor pastures to a full allowance of turnips or other foods containing a large percentage of nitrogenous matters. Sudden transitions in the management of young stock cannot be too strongly condemned. Let us give you a case in point, which will place this matter in its proper light. Many farmers suppose that it is economy to stint their calves in food till six or seven months old, and then suddenly turn them into a luxuriant pasture, with the supposition that they will make good the neglect in management during the earlier months of their existence. Such being the custom we cannot wonder at numbers of the best calves suffering from disorders of this type, or that our best calves die in hundreds from this short-sighted “pound foolish and penny wise” system of management. In all *enzootics* the blood is much altered in its physiological and vital properties, but in this one it is so much devitalized as to pass readily through the coats of the blood-vessels into the subcutaneous tissue, as is seen in the limb affected. This local manifestation is characteristic of the disease. You must, however, guard against accepting the hypothesis that the severity of the local symptoms indicates the virulence of the blood-poison. The transudation or effusion of blood underneath the skin is no more regulated by the virulence of the poison than that of exanthematous disorders so frequently seen in the human subject. It is well known to medical men that the most virulent, and consequently the most fatal, exanthems are not followed by any local symptoms such as an eruption; and that the patients are destroyed by the severity of the poison before a sufficient time has elapsed for the development of its local symptoms. We very frequently observe fatal cases of black quarter, in which the effusion of blood underneath the skin is very limited. From this you will clearly apprehend its true nature, and not look upon the local symptoms as indicating the severity of the attack, or its being the starting-point of the disease, but merely the result of the same. We should now describe the symptoms observed in this disease; but so dense your experience of it is too ample to be profitable, so that we will pass over them. We should next advert to the treatment; but the fatal nature of this disease, together with the short time that elapses between the first symptoms and the death of the animal, give us little to expect from the action of drugs, having not a sufficient time to operate to be of any service. Such being the state of matters, we will pass on to the consideration of the preventive measures, and in these we are glad to say the stockowner can do much to lessen his losses from this fatal disease. Clearly understand the causes which operate in its production and the preventive measures are evident. There are several methods adopted to lessen the liability to the attacks of this disease. In the case of calves, if you will expend a little capital in oilcake, and give them from one to two pounds per day, it will be returned to you tenfold. You will improve the condition of your animals, and consequently their value will be increased: they will be less liable to suffer from diseases, not only *enzootic*, but many others; and sudden changes will affect them much less. In fact, if this plan be adopted, with a sprinkling of common sense in general management, together with proper drainage where it may be required, very few, if any, animals, will fall victims to quarter-ill. Try no half measures, as they are only followed by half

success. A preventive that has been highly extolled by stock-owners is the seton in the dew-lap. This measure, though much opposed, still holds a position as a preventive. There can be little doubt that a seton, so long as it causes a discharge of matter (pus), will be effective in lessening the viscid condition and richness of the blood, and in this way lessen the liability to diseases incidental to a fulness of blood (plethora), and we are of opinion that of itself and by itself it will not prevent black-quarter, unless combined with intelligence in the general management of young stock. We know practical men may differ from us on this point, but, after carefully studying the matter, the above is our opinion. Another method of equalizing the natural and vital properties of the blood is to administer to young animals, at least once a week, about three-quarters of an ounce of nitrate of potash in mash. Bleeding in such cases is contra-indicated. Common salt should be sparingly used when animals are plethoric, as it promotes digestion and increases the absorption of the nutritive portions of food, and in this way may hasten an attack of the disorder. Our reasons for mentioning it at this part of our lecture is that many farmers use it as a preventive. We have recently seen that hyposulphate of soda has been again recommended as a preventive for black-quarter. This medicinal "agent is cheap, perfectly soluble in water, and nearly tasteless. For young stock it should be so regulated that each animal may take in its food or water about one ounce per day: if the doses are given at long intervals one or two ounces may be dissolved in water as a drench." We have no practical experience of this drug in this disease, but from a knowledge of its physiological and therapeutical actions we should have such confidence in it as to recommend its use as a preventive. In concluding this part of our subject we insist upon a better system of managing young stock. If this be adopted black-quarter will gradually be eradicated from your herds and flocks. Another of our enzootics is *red water*. It is a blood disorder characterized by great debility and discolouration of the urine. Different classes of animals are affected in different parts of the country, but it is common to all the members of the bovine race. Sheep are affected with the disease when subjected to the same exciting causes; however it is not a disease that is very frequently seen in this part of the country. In Scotland it principally affects cows a short time after parturition. In England and Ireland it is seen to attack all varieties of cattle, at all ages, and of both sexes. Throughout all the disorders of this class there are none whose relation to the soil can be so clearly demonstrated as this one. It is known to every stockowner that there are certain pastures where, if stock graze, they are certain to suffer more or less from red water. There appear to be certain conditions or states of the system which may be looked upon as predisposing the animals more or less to suffer from this disease—such as habits of body in which Nature requires a liberal supply of good nutritious food for *extra* purposes (if we may be allowed to use the term)—such as when animals are changing their coats in the spring, or in excessive secretions of milk, more especially after calving. It is obvious that such conditions would induce more or less poverty of blood, and if this be combined with a supply of improper food—that is to say, a food deficient in essential nutritive principles, such as is grown on badly drained and badly manured pastures—we can expect nothing but that the equilibrium of the vital properties of the blood must be destroyed, as is characterized by its discharge by the kidneys. There is a class of causes which may be considered as exciting, and which are more or less preventable. The chief of these is bad drainage; also coarse rank grasses, and other indigestible foods—such as shoots of young trees and leaves having astringent properties, which cause derangement of the digestive organs, followed by the characteristic symptoms of the disorder. It abounds in badly drained peat soils and moorland tracts of country, so much so as to be called *moor-ill*. Turnips grown on poor soils, and consequently in nutritious, are a frequent cause of it in cows. This may be due, however, to the fact that they receive during the period of pregnancy a plentiful supply of roots. It is so common in Scotland as to receive the name of the poor man's cow disease. This will give you a hint as to its cause, and also how it may be prevented. Preparations of mercury, more especially corrosive sublimate, when plentifully applied in the treatment of skin diseases, will

produce a temporary form of red water. Its operation in inducing this disease we can clearly apprehend as when absorbed by the abraded skin, it impoverishes the blood by acting upon the red corpuscles, thus destroying or breaking them up, and as a result they are thrown off by the kidneys, giving rise to the discolouration of the urine. Why should such varieties of food produce such grave results? It must be obvious to you that when roots or grasses are grown in rich and well-drained soils their constituents become properly matured, and hold a perfect relation to one another; but when grown on poor ill-drained lands their constituents become imperfectly developed, some being deficient in quantity, and others much increased. It is by this discrepancy in the relation that these hold to one another, and by the inferior properties that some of them possess, that the food becomes insufficient for the proper nutrition of the blood. The food which is most prone to produce red water will be always found deficient in albuminous compounds and earthy salts, and to contain water and carbonaceous materials in excess. Again, the albuminous substances are not only deficient in quantity, but having been placed under circumstances unfavourable for their complete development, they do not exist in that precise state necessary for the nutrition of animals. Before a substance can be nutritious it must not only contain all the elements essential to its composition, but these must be combined with one another in exact proportions; and this nice adjustment can only be effected by what we may term the forces of nutrition. Then, as these forces can only act effectually under certain requisite conditions, it is impossible that either grasses or roots can become sufficiently matured for the food of animals if grown where these conditions are absent. A mere chemical analysis of any sample of food is not sufficient of itself to demonstrate its nutritive qualities. These can only be properly determined by carefully conducted experiments on animals. As the blood, therefore, is as much a tissue of the body as a muscle, it is very much influenced by the nutritive processes; consequently, whenever its assimilative functions become disturbed, the blood corpuscles, which are its most highly organized constituents, gradually degenerate in character, until they break up altogether, and become thrown off from the system as *effete* material. It is not difficult to apprehend how this degeneration is effected, because, as an insufficient supply of proper food produces a progressive diminution in the number of blood corpuscles, an excessive supply of improper food tends not only to accomplish the same thing, but it aggravates the mischief by so deteriorating the blood as to effect its complete destruction. In both cases the results are the same—viz., anaemia; but in the former instance it is brought on so gradually that the intervening conditions are overlooked, while in the latter these conditions are so intensified as to constitute the first changes which arrest our attention. As the urine of herbivorous animals is the chief excretion by which the nitrogenised materials are eliminated from the system, it is easy to understand how its properties become so much altered in this peculiar affection. The most prominent and characteristic symptoms are the dowy appearance of the animal, and the discolouration of the urine, which is reddish brown. This latter characteristic varies much in its shades, dependent no doubt upon the severity of the attack. All the other secretions are scanty, as after the first stage obstinate constipation sets in, although diarrhoea may be seen at first. Appetite is lost, the cud is not chewed. The pulse is quick, and weak, and may be fluttering, which is pathognomonic of the anæmic condition which exists. The animal becomes rapidly emaciated and hide-bound, with coldness of the superficial parts of the body. The whole symptoms presented point to great poverty of the blood which truly exists. In treating this disorder the first thing to do is to remove the animal from the exciting cause, then give a full dose of a purgative, in which sulphur may form a part. Sulphur appears to have a very beneficial effect in many cases. The advantages of the purgative will be at once apparent; it will remove indigestible matters from the intestine, which, if allowed to remain are apt to complicate the case in increasing the severity of the symptoms, thus having a fatal tendency. We rely so much upon a purgative that if the bowels act speedily the curability of the disease seems hopeful. We can further assist the action of the bowels by frequent injections of tepid water. Give the animal as much linseed-tea as it will take, even drench with it. Its action is to sheath

and protect the mucous membrane of the intestine, and at the same time it is nourishing. Sulphuric acid has also been used with much advantage in such cases. If the colour of the urine be very dark it may be lessened by the administration of opium in half-drachm doses, twice a day. Should the animal become weak stimulants are indicated—ammonia, or porter may be frequently given. During convalescence tonics should be given, such as the sulphate of iron in the morning in mash or drench. This drug is termed a reconstructive tonic, that is to say, it improves the richness of the blood by increasing the number of its red corpuscles—the vital part of the blood. Gentian and ginger should be given in the evening. No solid food should be given, except the most nutritious kind, and even that in small quantities, while care should be taken to render the animal as comfortable as possible. In such a case bleeding would be fatal, and must not be resorted to under any pretence whatever. In preventing this disorder good management is essential. The animal should receive nutritious food—rich in nitrogenous matters, and a liberal supply of rock-salt. Cows should receive along with the injurious sorts of food a regulated allowance of materials rich in the earthy salts—such as good hay or bean-straw. There are many instances

in which the latter on being cut and steamed with turnips of the worst description has perfectly counteracted their baneful tendency. In fact, any kind of fodder that is rich in organic and in inorganic substances, if mixed even in small quantities with the food which generally produces red water, tends in a remarkable degree to maintain the animals in a state of health. The lands must be thoroughly drained and limed. The beneficial effects of lime to the soil is well known to all farmers. It utilises inert matters in the soil, and improves the quality of the food grown. When it is applied to old pasture lands, where the grasses are coarse, rank, indigestible, and innutritious, its good effects are soon seen in a plentiful crop of nutritious grass. In some instances it may be advisable, where red water abounds, to plough up the land and crop it for a few years before laying it down again for pasture. If the above hints be fully carried out you may be certain that red water will be a very rare disease upon your farms. We think it will be patent to you that this affection is incidental to bad farm management, as we have known parts of the country where pastures have been dangerous to graziers, but by the industry and superior knowledge of the stock owner, they have become harmless as a cause of this disease.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MONTHLY COUNCIL, Wednesday, May 8.—Present: Lord Vernon, President, in the chair; the Duke of Devonshire, K.G.; the Duke of Richmond, K.G.; the Earl of Lichfield, the Earl of Powis, Lord Chesham, Lord Kesteven, Lord Tredegar, the Hon. H. G. Liddell, M.P.; Mr. Acland, M.P.; Mr. Amos, Mr. Baldwin, Mr. Barnett, Mr. Barthropp, Mr. Bowly, Mr. Cantrell, Colonel Challoner, Mr. Clayden, Mr. Clive, Mr. Davies, Mr. Dent, M.P.; Mr. Druce, Mr. Edmonds, Mr. Hornsby, Colonel Kingscote, M.P.; Mr. Lawes, Mr. Leeds, Mr. Masfen, Mr. Milward, Mr. Pain, Mr. Randall, Mr. Ransome, Mr. Rigden, Mr. Shuttleworth, Mr. Statter, Mr. Stone, Mr. Thompson, Mr. Torr, Mr. Turner, Mr. Webb, Mr. Welby, M.P.; Mr. John Wells, Mr. Wells, M.P.; Colonel Wilson, Mr. Jacob Wilson, and Dr. Voelcker.

The following new members were elected:—
 Addington, Rev. Henry, Henlow Grange, Biggleswade.
 Angerstein, W. T. N., Ashby Lodge, Rugby.
 Bailey, Henry James, Rosedale Farm, Tenbury.
 Ball, George, North Kilworth, Rugby.
 Barnett, T. Jackson, 13, North Street, Wolverhampton.
 Barratt, Charles Underwood, Eccleshall, Staffordshire.
 Barton, James, Pipe, Bangley, Tamworth.
 Berry, Edmund, Ashley, Market Harborough.
 Bloxidge, John Smith, Meir Pits, Tamworth.
 Boot, William, Meir, Lichfield.
 Bostock, Edwin, The Hough, Stafford.
 Bridgwood, George, Bednall, Stafford.
 Broomhead, Bernard Platts, Broomhall Park, Sheffield.
 Butcher, William, Gosmere, Selling, Faversham.
 Croudson, John, Uxwick, Ulverston.
 Cummins, John, Jun., Nelfield, Newent.
 Dobell, Joseph, Lewtwich, Northwich.
 Dorrington, Charles H., Boyatt Farm, Otterbourne, Winchester.
 Dyer, Major Henry C. S., Westhorpe, Bromfield.
 Ellis, Samuel Henry, Maldon.
 Fortune, William, The Drefor, Kerry, Montgomery.
 Gaskell, W. P., Fulmer, near Slough.
 German, George, The Field, Measham.
 Griffiths, John, Houlston, Middle.
 Grindly, William, Weeping Cross, Stafford.
 Groom, James, Arleston House, Wellington.
 Holland, James, Deeping St. Nicholas, Spalding.
 Holland, John Wells, Deeping St. Nicholas, Spalding.
 Hudson, Samuel, Wytheford Hall, Shawbury.
 Humphreys, W. T., Calcott Hall, Oswestry.
 James, J. F., Cople, Bedford.
 Jeffery, George, The Rutland Iron Works, Stamford.

Jones, James, Norville, Bridgnorth.
 Jones, Thomas R., Talardd, Llanybyther.
 Lawrence, John Wheatley, Chesterfield Grange, Lichfield.
 Le Page, T. Blondel, St. Andrew's, Guernsey.
 Lowe, Thomas, Trysall, Wolverhampton.
 Marson, John, Acton Mill, Stafford.
 Oswell, W. B., Eardiston House, West Felton.
 Perry, William, Hickmerlands, Sedgley, Dudley.
 Ringrose, Robert Boyes, Swanland, Brough.
 Roberts, Benjamin, Belle Vue, Oswestry.
 Shrewsbury and Talbot, the Earl of, Lagestre, Stafford.
 Slansy, John, Purville House, Wellington.
 Smith, F. D. Lea, Halesowen Grange, Halesowen.
 Smith, Thomas, Stableford, Bridgnorth.
 Tongue, Edward, Manor House, Alridge, Walsall.
 Vaughan, William, The Lodge, Rayton Eleven Towns.
 Walker, H. R., Chillington, Wolverhampton.
 Willis, Thomas, Manor House, Carperby, Bedale.
 Wilson, George C., Dallam Tower, Milnthorpe.

FINANCES.—Colonel Kingscote, M.P., presented the report, from which it appeared that the Secretary's receipts during the past month had been examined, and were found correct. The balance in the hands of the bankers on April 30 was £3,362 7s. 3d., £3,000 remaining on deposit at interest.

JOURNAL.—Mr. Thompson (chairman) reported that the following gentlemen had been appointed judges of the farms entered to compete for the prizes offered in connection with the Wolverhampton meeting:—Mr. G. Jackson, Tattenhall Hall, near Chester; Mr. W. Sanday, Holmepierpoint, Radcliffe-on-Trent; Mr. J. Wheatley, Newwick, Driffild; and that Mr. Wheatley had undertaken to write the report for publication in the ensuing number of the Journal.

The following is the list of intending competitors for farm prizes:—

ARABLE FARMS.
 Boulton, John, Bowling Green Farm, Shifnal.
 Bowen & Jones, Easdon House, Shrewsbury.
 Brewster, William, Boldorton Hall, Middle, Wem, Salop.
 Cheate, John Arthur, Wigginton Fields, Tamworth.
 Collins, William, Aston Farm, Stafford.
 Cureton, George, Beam House, Shrewsbury.
 Davenport, John, Blorton House, Stoke-upon-Trent.
 Davies, Mary, Harrington, Shifnal.
 Forester, George Townsend, Sherlows, High Ercall, Wellington, Salop.
 Glover, John, Bangley, Tamworth.

Heatley, Thomas, Meadleys, Pittingham, Wolverhampton.
 Kealing, Charles Reynolds, Yew Tree Farm, Penkridge.
 Lowe, Thomas, Trysull, Wolverhampton.
 May, George Anderson, Elford Park, Tamworth.
 Negus, Thomas Addison, Lynn, Walsall, Lichfield.
 Sankey, Elizabeth, Bratton Farm, Wellington, Salop.
 Sing, Henry Swancote, Bridgnorth.
 Spence, Charles, Little Holt Farm, Bridgnorth.
 Stanier, John Edward, Uppington, Wellington, Salop.
 Timmis, Charles, Brick House, Stafford.
 Trevor, William Henry, Westwood, Much Wenlock.
 White, Edward, Knowle House, Lichfield.
 Winterton, Thomas, Alrewas Hays, Lichfield.

DAIRY FARMS.

Brown, Henry, Preston, Wellington, Salop.
 Clay, John, Kinsale, Oswestry, Salop.
 Swift, William Thomas, Toft Farm, Newcastle-under-Lyne, Staffordshire.
 Walker, Matthew, Stockley Park, Anslow, Burton-on-Trent.

It was recommended that the Society should prepay the postage on the numbers of the Journal sent to foreign members, and that applications for the Journal from the Royal Agricultural Society of Portugal and the Main State Board of Agriculture be granted.—This report was adopted.

GENERAL, WOLVERHAMPTON.—Lord Kesteven reported the recommendation of the committee that 15,000 copies of the stock catalogue and 7,500 copies of the implement catalogue of the Wolverhampton meeting be printed for sale in the showyard, and that the prices be 1s. each on the 5s. and 2s. 6d. days, and 6d. each on the 1s. days.—This report was adopted, with the addition "that Mr. Randell and Mr. Masfen be authorised to make arrangements to secure additional land for the trial of steam-cultivating machinery, at a cost to the Society not exceeding £10 per acre."

JUDGES' SELECTION.—Mr. Milward reported the recommendations of this committee in reference to implement judges, which were unanimously adopted, subject to an addition to the number of engineer judges.

EDUCATION.—Mr. Wells, M.P., presented the following report:

Four out of nine candidates who had entered their names for competition presented themselves for examination, of these three were under the age of 21. Messrs. Smith and Ohly obtain certificates of the first class, and the privilege of life membership of the Society. Mr. Minton is qualified for a certificate of the second class. Mr. Smith passed an excellent examination in the science and practice of agriculture and in book-keeping, and he is also entitled to the prizes for chemistry and land surveying. Mr. Ohly, being over age, does not receive a prize, although he stands first for geology. One candidate only entered for anatomy and animal physiology, and the examiner did not think him worthy of a prize. Three candidates entered for botany, and all failed.

The results of the examination are that:

Mr. Smith, besides becoming a life member of the Society, and obtaining a first-class certificate, is awarded the first prize, as well as the following prizes: Science and practice of agriculture £10, chemistry £10, book-keeping £10, land surveying £5.

Mr. Ohly gains a first-class certificate, and becomes a life member of the Society.

Mr. Minton obtains a second-class certificate.

The committee cannot but express their regret that more candidates have not come forward for the prizes offered, and that out of the number entered more than half did not present themselves for examination.

This report was adopted.

SHOWYARD CONTRACTS.—Mr. Randell (chairman) reported that the surveyor had certified that the contractor is entitled to his first payment on account, amounting to £1,500, and that the committee had called the attention of the Wolverhampton Local Committee to certain works which were not in so forward a state as was considered desirable.

This report was adopted.

IMPLEMENT.—Colonel Challoner (chairman) reported that the following recommendation of the committee had been adopted by a majority of 1: "That a letter from Mr. Easton having been read, enclosing a report of Messrs. Eastons, Amos, and Anderson, to him, respecting the Wolverhampton trials, the committee recommend that these trials be left in the hands of Mr. Jas. Easton, sen., the remaining consulting engineer of the Society, and that the consideration of any further appointment be deferred until after the Wolverhampton meeting." The question, "That this report be adopted," having been put from the chair, Mr. Thompson stated that, as the opinions of members of the committee were so evenly divided, it was desirable that a vote of the Council should be taken, especially considering the nature of the previous resolutions of the Council and of the implement committee. He then read a letter, dated January 22, 1848, addressed by Mr. Hudson, the then Secretary of the Society, to Messrs. Easton and Amos, which made it clear that the only official appointment was that of the firm; and he urged that it therefore required a special resolution of the Council to cancel that appointment, but that such a resolution had never been passed. Mr. Randell then moved as an amendment to the report, the same resolution which he had moved in committee, viz.: "That the Secretary assure Mr. Easton that nothing could be further from the intention of the implement committee or the Council than to do anything which could in any way be offensive to him. The Council call Mr. Easton's attention to the fact that the original appointment of consulting engineers was the firm of Messrs. Easton and Amos; that, notwithstanding the gentlemen who then constituted that firm have retired from it, the responsibility of carrying on the business of the Society has, by tacit consent, been left in the hands of the firm, viz., that of Messrs. Eastons, Amos, and Anderson." Mr. Milward having seconded this amendment, the discussion was continued by the Duke of Richmond, Hon. Mr. Liddell, M.P., and Mr. Jacob Wilson, as well as by Mr. Ransome, who, as the mover of the resolution embodied in the report of the implement committee, stated the arguments in justification of his view, and disavowed holding an opinion that Messrs. Eastons, Amos, and Anderson were not well qualified to act as the Society's consulting engineers. On a division, Mr. Randell's amendment was carried by 26 votes against 11, and the amended report by 27 votes against 10.

VETERINARY.—Mr. Milward presented the following report:

The original purposes of the grant made by this Society to the Royal Veterinary College were twofold: 1. To advance veterinary science by means of the instruction afforded to students at the College. 2. To enable members of this Society to obtain the best possible assistance and advice in case of the outbreak of disease amongst their stock. In addition to these primary objects the Society hoped to present to its members in general, information on veterinary science, by means of lectures, reports on cases treated, and on measures to be adopted to prevent disease. The first of these objects has scarcely been so satisfactorily performed as could be wished; the number of veterinary surgeons who have gone out from the College, and become established in the country, have not so full a knowledge of the treatment of the diseases of cattle, sheep, and pigs as to give confidence to their employers, though thoroughly competent as far as treatment of horses is concerned, and generally of a higher standard of scientific education than their predecessors. Neither has the second object been satisfactorily attained.

Members of the Society do not apply to the veterinary inspector in cases of disease so much as they might do, and complain that it is not easy in these cases to obtain the professional advice which they require. Further than this, the Society do not receive from the College, or its professors, the

current information on diseases, or the suggestions for their cure and prevention, which they think they ought to have at their service. They therefore recommend that the conditions on which the grant should be made shall be as follows :

That the grant to the College shall be specially devoted to the advancement of veterinary science as applied to the diseases of cattle, sheep, and pigs.

That it is desirable that the Governors of the Veterinary College should appoint an efficient assistant to the Professor of Cattle Pathology, in order that he may more satisfactorily attend to the application of members of the Society, and by lectures and practical treatment of cattle diseases at the College give more thorough instruction to the students on these subjects; and further, that the Professor should present to the Council quarterly reports on matters connected with diseases of cattle, sheep, and pigs, and on any question of veterinary science which may be of interest to agriculturists.

Mr. Thompson, while concurring with the report of the committee, moved the following addition to it : "That a deputation of the Governors of the Royal Veterinary College be invited to meet the Veterinary Committee and discuss the measures which the Council consider necessary to be adopted in order to render the cattle department of the Royal Veterinary College really efficient." This addition having been seconded by Mr. Dent Dent, M.P., the report of the Veterinary Committee was, as thus amended, adopted unanimously. The Secretary was thereupon instructed to forward a copy of the report, and of the foregoing invitation, to the Principal of the Royal Veterinary College. The annual report of the Governors of the Royal Veterinary College was received, and referred to the Journal Committee, with a view to its publication in the next number of the Journal.

COUNTY MEETING OF 1872.—The report of the committee appointed to inspect the sites offered to the Society by the local authorities of Cardiff, Cheltenham, and Newport, was read, as well as a letter from the Mayor of Newport, stating that, as the committee had informed him that they could not report so favourably of the accommodation offered by Newport, as of that offered by Cardiff and Cheltenham, the authorities of Newport were reluctant to occupy the time of the Council by pressing further the claims of that borough. The Council were then favoured by the attendance of the following gentlemen as deputations from Cardiff and Cheltenham :

Cardiff.—The Marquis of Bute, H. H. Vivian, Esq., M.P., the Mayor of Cardiff (Charles W. Davis, Esq.), the ex-Mayor of Cardiff (E. Whiffen, Esq.), Mr. Alderman Alexander, and Messrs. J. V. Corbett, G. F. Clark, and G. Fisher.

Cheltenham.—Sir Michael Hicks Beach, Bart., M.P.; R. S. Holford, Esq., M.P.; H. B. Samuelson, Esq., M.P.; and the High Bailiff of Cheltenham (G. Parsonage, Esq.)

These deputations having successively stated to the Council the claims of their respective districts, and having answered the inquiries of the Council, the President expressed to them the thanks of himself and the Council for their interest in the Society, their anxiety to promote its objects, and their kindness in attending the meeting that day.

The deputations having withdrawn, it was proposed by Mr. Clive and seconded by Col. Kingscote, C.B., M.P., "That the meeting of 1872 be held at Cheltenham;" it was proposed by Lord Tredegar, and seconded by the Hon. H. Liddell, M.P., "That the meeting of 1872 be held at Cardiff." On a division it was decided by 31 votes against six, that the country meeting for 1872 be held at Cardiff.

On the motion of Mr. Thompson, seconded by Mr.

Torr, Sir Watkin W. Wynn, Bart., M.P., was unanimously recommended to the general meeting as President for the ensuing year.

HOUSE LIST.—In conformity with the bye-laws the Council then arranged by ballot the following election list, to be recommended by them for adoption at the ensuing general meeting on the 22nd inst. :

ATTENDANCES FROM THE RISING OF THE MANCHESTER MEETING IN 1869, TO THE PRESENT TIME.

Names.	Monthly Councils.	Special Councils.	Committees.	
	Total 16.	Total 1.	Number of Meetings.	Attendances.
Acland, Thomas Dyke, M.P., Sprydonote, Exeter, Devon.	5	1	39	2
Baldwin, John, Luddington, Stratford-on-Avon, Warwickshire.	5	...	4	4
Barnett, Charles, Stratton Park, Biggleswade, Beds.	9	...	4	...
Cantrill, Charles S., Riding Court, Datchet, Bucks.	14	1	28	19
Clayden, John, Littlebury, Saffron Walden, Essex.	5	...	32	7
Dent, John Dent, M.P., Ribston Hall, Wetherby, Yorkshire.	9	...	59	32
Jones, J. Bowen, Emsdon House, Shrewsbury, Salop.	...	...	...	...
Kingscote, Col., M.P., Kingscote, Wootton-under-Edge, Gloucestershire.	12	1	53	29
Leeds, Robert, Castleacre, Brandon, Norfolk.	13	...	35	21
Liddell, Hon. Henry George, M.P., Ravensworth Castle, Durham.	3	...	4	...
Lopes, Sir Massey, Bart., M.P., Maristow, Roborough, Devon.	7	1	28	7
Milward, Richard, Thurgarton Priory, Southwell, Notts.	12	1	80	58
Pain, Thomas, The Grove, Basingstoke, Hants.	13	1	4	1
Ransome, Robert Charles, Bolton Hill, Ipswich, Suffolk.	10	...	28	15
Ridley, M. White, M.P., Biagdon, Cramlington, Northumberland.	9	...	39	11
Rigden, William, Hove, Brighton, Sussex.	5	...	4	1
Stone, Nathaniel Chamberlayne, Aylestone Hall, Leicestershire.	5	...	4	3
Torr, William, Aylesby Manor, Grimsby, Lincolnshire.	13	...	73	50
Turner, George, Bramford Speke, Exeter, Devon.	5	...	4	4
Turner, James, Haddon, Huntingshire.	...	...	...	...
Wakefield, W. H., Kendal, Westmoreland.	...	...	...	...
Webb, James, Spring Hill, Fladbury, Pershore, Worcestershire.	9	...	23	10
Wells, John (elected April 5, 1871), Booth Ferry, Howden, Yorkshire.	...	...	...	...
Wilson, Lieut.-Colonel Fuller Maitland, Stowlangtoft Hall, Bury St. Edmunds, Suffolk.	6	...	28	7
Wilson, Jacob, Woodhorn Manor, Morpeth, Northumberland.	10	...	68	40

On the motion of Mr. Thompson, seconded by Mr. Torr, it was resolved that the country meeting for the year 1873 shall be held in the district comprising the counties of Durham and Northumberland, as well as the North and East Ridings of Yorkshire, in accordance with the scheme of rotation adopted by the Council last July.

The draft of the report to the general meeting was discussed, amended, and ordered to be printed. Letters were read from the Rev. Mr. Everard, of Wolverhampton, and from the Secretary of the Suffolk Agricultural Association, and the Secretary was instructed to return suitable replies.

THE TENURE OF LAND.

That terrible Census, which tells us all as much about each other as the Peerage does of Lords, or the Herd Book of Shorthorns, makes Mr. Mechi to be close upon seventy years of age. And yet the Ex-Alderman is by no means an old man. If we are, indeed, to trust to his looks and his manner, he is as fresh, sanguine, and energetic as he has been at any time for the last twenty or thirty years. If, however, there be no loss of power there is clearly some gain of discretion. We hear less and less of the wonders of Tiptree, we see the shortcomings of the farmer treated with more and more consideration, and the practical element upheld at the sacrifice of some sensational doctrine. It might be well to compare the address delivered before the Farmers' Club on May-day with some papers from the same pen as issued a quarter-of-a-century or so since. If anything, Mr. Mechi is, in fact, growing but too cautious, and though we will not say that his last lecture was altogether a disappointment, it scarcely did justice to the opportunity which was afforded.

Many of the leading principles which should now regulate the hiring and letting of land, if not entirely passed over, were very tenderly touched on. Thus, but for the remark of a subsequent speaker, there would have been nothing urged against the maintenance of obsolete covenants or the hard-and-fast line of the four-course system; whereas, with more modern appliances and better developed resources, that which a tenant requires perhaps above anything else in order to do the most by his means, is liberty of action. At the Botley Farmers' Club only the other day Mr. Blundell said: "The four-course system would enable no man to pay a high rent. He knew of many farms in that county where the tenant was tied to the four-course system. Men could not live on them, because they could not pay the rent without taking it out of capital. No man could live under it, and the four-course system was one of those blind systems of letting which was adopted by a man who could not see an inch before his nose, and he did not take the trouble to inquire what was the effect of it. He would not take a farm under such a system, with leases copied from old documents, and where they know nothing whatever about the land. The fact was, there was now such a competition for farms that a landlord might do almost as he liked. They dictated to the tenants what should be done, and what not; and it was impossible that under such restrictions they could properly farm the land with a profit. The changes which had taken place were diametrically opposed to the four-course system. High farming, with liberty of action and good leases, was all that was required for the good of the country and the landlord and tenant themselves, and without this farming must be a dead letter." We are induced to give so much here from the little or nothing having been said to this point at the meeting in London. And yet how much in these times should the hiring of land be made to depend upon the spudding out of such thistles gone to seed as those fusty old covenants and ordinances, and fines and penalties!

Then, Mr. Mechi walked very gingerly by the great Tenant Right principle with which the Farmers' Club has so long been identified. He would not even name it, but talked quite "genteelly" of a fair system of outgoing valuation for tenant's improvements, and this when his great aim was to get more capital invested in the soil. Whereas in Scotland, where the fondness for leases is

proverbial, they speak a deal more plainly about the necessity for Tenant Right than Mr. Mechi ever cared to do. Thus, at the meeting of the Ayrshire Farmers' Club, Mr. Cunninghame, who read a paper on some of the Hindrances to Agriculture, spoke to "the want of what might be designated Tenant Right, or, in other words, compensation for permanent improvements and unexhausted manures, &c. The want of such a system hitherto in Scotland has been the cause of much land becoming deteriorated and impoverished towards the close of a lease, and more especially where the tenant is doubtful of a renewal. Now, this is not only an injury to landlords and tenants, but it also entails a great loss on the nation, which ought to be guarded against. How this is to be accomplished is a matter likely soon to command public attention, and is of vital importance to agriculturists." This is a vast deal better than anything that was said in the same vein in London, as, in truth, the Ayr Club, for going straight to the point, has all the best of the argument. Mr. Mechi, in his thirty odd articles, tells the tyro to ask himself, How much credit can I obtain, so as to have the use of some other person's capital? but it never seems to occur to Mr. Mechi, with all his liking for commercial transactions, that the monstrously unfair law of distress for rent will always be pretty certain to keep "some other person's capital" out of the land, unless under some far better security than the occupation itself can offer. Hear, on the other hand, how they speak up at Ayr: "As if the curse pronounced on the ground after the *fall* was not of itself a sufficient drawback, man himself must interpose fresh obstacles in the way of its thorough cultivation. Passing strange that those whose chief income is derived from farm-rents should be the principal parties who frame and uphold laws, and impose other prohibitions anent the management of land, which are not only injurious to their own interests, but also highly inimical to the whole community." This is very eloquently put; and then Mr. Cunninghame goes on to denounce in turn the prior claim of the landlord, and the game evil in a strain which induces one to think that Mr. Mechi and his friends were only playing with the great questions before them. Shall I be my own bailiff? Is the aspect North or South? Is there a good supply of water? Do I understand the business of farming? And could I hatch Cochin-China eggs if I bought a pair of feather breeches? Mr. Andrews says it is taxes, Mr. Williams says it is tithes, and Mr. Read says it is cramming at Cirencester and writing to *The Times*. These, very possibly, are all incidental evils to the practice of farming, but they are scarcely the grand features to dwell on in considering a question of so much national importance as the hiring and letting of land.

On Wednesday in the same week there was a dinner of the Chambers of Agriculture, when, of course, every speaker had the opportunity of taking up any particular subject which he might consider affected the general interests of agriculture or the actual position of the farmer. With the exception of Lord Vernon, who touched feelingly on the case of the French peasantry, the meeting for all that occurred might have been called "the Local Taxation Dinner." Nothing else was talked about, as neither owner nor occupier would seem to have any other claim or grievance to speak of; and, in fact, at the Council meeting on the following day the members were cau-

tioned against giving their attention to any other matter. It is not so clear, so far, what good is to follow from this movement to the farmers, while it is very manifest that out of London they are by no means agreed amongst themselves as to the adjustment of the many ramifications into which the question branches. If, however, for the next year or two our agricultural bodies are to work in earnest at little but Local Taxation, and to touch as

lightly as possible on topics of far more weight, at least to the farmer, it is tolerably clear that not much progress can be expected. It is all very well bringing landlord and tenant together, but in Scotland, where the people have some credit for sound common sense, they are talking after a very different fashion. We would refer the reader to "Some of the Hindrances to Agriculture," as considered by The Ayrshire Farmers' Club.

THE FARMERS' CLUB.

HOW TO HIRE AND HOW TO LET A FARM.

The last discussion meeting of the Club for the present season was held on Monday, May 1, in Salisbury-square; Mr. J. B. Spearing presiding. The attendance was numerous. Mr. J. J. Mechi, of Tiptree Hall, Kelvedon, introduced the question for consideration, namely, "How to Hire and How to Let a Farm."

The CHAIRMAN, in introducing Mr. Mechi, said he had no doubt that gentleman would give them that evening, as he had done several times before, an interesting paper. If there were any secrets connected with the subject it was important that they should know them, and if Mr. Mechi could tell them how to farm profitably, he would be entitled to their best thanks.

Mr. MECHE then read the following paper:

How to Hire a Farm.—I presume we shall all agree that, for the good of the individual as well as for the national welfare, it is desirable that the production of our food, as well as our other industrial arts, should be conducted with knowledge, intelligence, and capital. There is no greater mistake than to suppose that farming can be carried on successfully without those necessary qualifications, and thence arise those losses and disappointments of which we too frequently hear. Agriculture is a business requiring almost an apprenticeship of practical experience, quite as much so as the knowledge of navigation is essential for successful voyages. That experience must be varied if we have to farm under varying circumstances of soil and climate and business conditions. I commend these remarks especially to capitalists from towns and cities, making however this reservation, that I know of many keen observers who, not having been brought up to agriculture, and therefore not oppressed by antique prejudices, have succeeded in making many and successful improvements in agriculture, beneficial alike to themselves and to the district around them, and to the general welfare. According to the Board of Trade returns for 1870, the total area of the United Kingdom consists of 77,573,585 acres; its population 30,988,460. But the total amount of land under all kinds of crops, bare fallow, and grass, is only 46,177,370, of which 29,085,295 are in permanent pasture. The population of Great Britain, including Wales and Scotland, in 1801, was 10,834,633; in 1870, 25,313,000. Ireland in 1801, 5,300,000; in 1870, 5,525,210. The contrast in increase is painfully remarkable. If you ask me why I read this paper, I reply that, although the knowing old stagers of the London Farmers' Club want no advice in this matter, there arises annually a new generation of young farmers who have to gain or buy their experience, too often at great cost, and to such I desire to communicate my ideas. There are about 400,000 in Great Britain and 600,000 in Ireland, and as the average of adult life is probably but 50 years, it follows that there must be about 20,000 new farmers annually, say 8,000 English, Scotch, and Welsh, and 12,000 Irish, to fill the places of those departed. Some of these may, perhaps, benefit by the introduction and discussion of the important subject now before us, especially as we number in our Club some first-class land agents, land stewards, and land valuers, as well as landowners. A very considerable portion of the land in Britain is entailed, and in few hands. It has been stated that 150 individuals own one-half of England, and only 12 hold one-half of Scotland. On many of these estates, especially in England, leases are not granted, but the holding is continued from generation to generation, so that in a great many such cases within my knowledge farmers would decline to accept a

lease, knowing that their tenure is secure and their rent moderate. An eminent land agent assures me that out of 1,500 farms which he had let, only one-fourth were on lease. Still, as a matter of business, I prefer a long lease, because, although it gradually increases rents, it gives confidence to men of capital to invest largely in modern improvements; they are, also, thus politically unshackled, and, if of a very independent temper, or somewhat hasty, protected against the malign influence of an occasional vicious gamekeeper, or a disagreeable steward or landlord. In Scotland, leases of 19 years are, I believe, very general, and also very beneficial to the country at large. Certainly their tendency is greatly to increase the value and rent of land, although sometimes the law of hypothec induces the landowner to accept inferior tenants at rack rents. Such tenants do not often sit out the lease, or make permanent improvements, but, on the contrary, leave the land in an impoverished condition. The law of hypothec is by many considered unfair and injurious. Our subject is a very large one, taken in all its bearings, because, as it applies to the whole of the United Kingdom, we have very great variations in soil and climate, in modes of letting and tenure, in customs of valuation and times of entry; therefore any one seeking success in a new district, or entering for the first time in the practice of agriculture, should put to himself the following questions:

1. Do I understand the business of farming?
2. How much capital have I got?
3. How much credit can I obtain, so as to have the use of some other person's capital?
4. How much capital per acre shall I invest?
5. Shall I be my own bailiff and manager, or shall I employ another?
6. Where and how shall I seek for a farm?
7. How shall I ascertain the general character of the land, the landowner, and his agent?
8. Shall the tenure be annual, or by lease?
9. What are the customs of the neighbourhood as to valuation of incoming tenant?
10. Shall I take live and dead stock by valuation, or let them go to auction?
11. Shall the farm be arable, pasture, or mixed?
12. Shall it be a rich natural soil near a river, a stiff clay, a hot gravel, a dry sand, a chalk, a limestone, or a useful and moderately good mixed soil?
13. Is it near a good market for either buying and selling, or obtaining artificial food and manures?
14. Has it good roads and suitable buildings in a central position, with residential accommodation?
15. Are they in good or bad condition?
16. Who is to keep them in repair, remembering the difference between tenenable and substantial repair?
17. Has the land been well or ill-farmed by the out-going tenant?
18. Is the farm crowded with timber and fences, or are the fields of ample size, with neat fences and free from trees?
19. Is the right of sporting reserved by the landowner?
20. Is the land naturally or artificially drained?—if not, who is to do it, on what conditions and at what cost or charge?
21. How much of my capital will be invested in incoming valuation for tillage, &c., live stock, farm horses, implements and machinery, horse keep, labour, &c., until a crop is obtained?

22. Is there a good style of labourers in the neighbourhood?
23. How much per acre are the tithes (great and small), the poor-rate, surveyor's-rate, and taxes?
24. Is there a good supply of water?
25. Are there labourers' cottages convenient on the farm?
26. Is the farm in an improving district or in a backward one?
27. What are the proposed conditions as to mode of cropping?
28. Is the aspect or slope to the north or south, east or west?
29. How many feet is its elevation above the sea?
30. Are there means for irrigating the meadows, and what is the quality of the water?
31. Have the landowner and his steward a good name for liberality and justice, or are they said to be oppressive and unjust?
32. Will any portion, and how much, of my capital be required to be invested on improvements?

Time will not permit my commenting on all these questions, but I will offer a few general remarks. Young hands would do well to seek advice and information from some successful practical friend. In seeking for a farm, get introduced to some first-class land-valuer who has a good reputation in his locality. If in a strange locality, make some quiet inquiries in the neighbourhood as to the general character, not only of the land, but of the landowner and steward or agent. It is a good thing to stand well with land-agents in rich districts not over-rented. If you advertise for a farm you will have plenty of offers, but too often of the wrong sort in some way or other, such as a rack rent, an unpleasant landlord, too much game, or inferior soil. Farms hawked about or advertised require a very cautious approach. Farms having a bad name in the county are often advertised in distant counties, and a clever agent will take care to meet the applicant at the station, accompany him to the farm, dine him, and see him safe off again by railway. As a rule, a good or acceptable farm seldom comes into the market, for before the late tenant is deposited in his grave some wide-awake farmer has made his application, and generally there are several applicants for a single farm. An Essex landowner told me that he had twenty-three worthy competitors for one farm. Land-agents or land-stewards have generally in view some good men, who get notice of an approaching vacation. It is very desirable to hold under a landlord who, having plenty of means, effects improvements by drainage, proper buildings, &c. The tenant's capital is then free and available for tenant's investments, and it always answers to pay a fair per-centage on landlord's capital invested in suitable improvements. A rich farmer can sometimes make good terms with the dilapidated landowners of poor unimproved land requiring capital and improvements. In a district new to you obtain a few catalogues of farm sales, which will enlighten you as to the probable requirements in live and dead stock, machinery, and implements.

Farmer's Capital.—Fit your farm to your capital—£1,000 to every 50 acres would not be too much for high and improved arable farming, and not enough if you find it necessary to improve the farm. The question of capital is too important to be passed over lightly. Modern agriculture, with its costly implements and machinery, and extensive use of artificial manures and purchased food for cattle, and its maximum crops, is a very different affair from the old pastoral and *laissez faire* system. In Scotland, where farms are let to the highest bidder for a 19 years' lease, the tenant is often expected to make a considerable outlay in drainage at a cost of some pounds per acre. Liming or chalking and claying frequently absorbs several pounds per acre of tenant's capital. On my farm, which requires plenty of manure and deep cultivation, I cannot prosper with less than £16 per acre, invested as follows:

	£	s.	d.
Live stock.....	6	0	0
Farm horses.....	1	0	0
Tillages, &c.....	3	15	0
Implements and machinery.....	2	10	0
Hay, corn, &c., unsold.....	2	15	0

£16 0 0

If I diminish my quantum of live stock I diminish my supply of manure, and, consequently, get smaller crops and less profit.

I could do better with £20 or more per acre. We hear a good deal about £10 per acre, but it is now quite insufficient in an arable district. If you have a wealthy and judicious landlord, willing to aid in progressive improvement, it will answer your purpose to pay from 5 to 6 per cent. for drainage and extra buildings where required. If you desire to be secure in your tenancy buy the land, and mortgage it for a long period at 4½ per cent. As a farmer you should gain 10 per cent.; as a landowner you can only expect 4 per cent. Our system of separate land-owning and farming is far superior to wretched poverty-stricken peasant-proprietorship. If you come into a district previously unknown to you, your success may depend upon a change of crop and of practice suited to the soil and climate—if they differ from the one you have quitted. Scotch farmers from among the cloud-capped hills and vaporous atmosphere, where a turnip crop is a certainty, must expect and prepare for a totally different arrangement in the dry, level, and cereal eastern counties, where spring-sown wheats and early-sown turnips are almost sure to fail, and where top-dressings in spring are not at all to be depended upon. I have seen much capital wasted by laying down to grass land quite unsuited for it both in soil and climate. Our dense, tenacious non-calcareous clays, which are like bird-lime in winter, and dry like cast-iron in summer, are quite unfit for permanent pasture; and yet, by deep cultivation, and frequent hoeing, splendid crops of mangel, beans, and wheat can be grown on them; also tares and clover. Another mistake is to expect that great Lincoln or Cotswold sheep will thrive on such poor pastures. Shorthorns want better food than that. Consider the season when you are choosing a farm. Beware of stiff, undrained clay farms, in a hot, dry, exceptional season, like 1870. The crops, then, are exceptionally good and tempting. A very hot, burning farm in a wet season is equally deceptive. When examining a farm in a district previously unknown to you, it is desirable to see the subsoil below the ploughed surface. Too often it will be found very different in appearance from the surface; a four-feet cutting may enlighten and surprise you. Many a farm has been secured by an immediate and personal interview with the proprietor. "First come, first served," has often taken place. Ascertain the custom of valuation in the district: they vary very much, and unless you do this you may be greatly deceived or disappointed. Unless you have a sharp local man to value on your behalf, you may be extensively victimised. In the affairs of this world men are not saved by faith, but rather by the want of it; therefore have every agreement or understanding clearly defined in black and white, on properly stamped documents. For want of this, I have seen much misplaced confidence sadly abused, and great injury inflicted, and much heart-burning. There would be little difficulty in doing business in confidence if all men were true and honest; but we know that it is not so, but that among both landowners and tenants there are some greedy, grasping, cunning, and dishonest persons, with other bad passions, which should be legally guarded against. There is a certain percentage of people who are almost sure to succeed under almost any circumstances—industrious, frugal, sharp-witted, and far-seeing, who always manage to find themselves in the right place; and I am sorry to say that there is also another too large percentage exactly the opposite—weak, confiding, and deficient in business qualities. These are matters beyond human remedy or control.

How to Let a Farm.—The owner of naturally fertile soil has much less difficulty in letting than the owner of poor or middling land. Good tenants, like good landlords, are much sought for, and command a preference. There are certain tenants, known to have capital and talent, who can almost pick and choose their farms. Such persons have the confidence and respect of land stewards, who naturally feel highly responsible to their employers in the matter of entrusting their land. It is easy to say, "I have bound the lessee to strict covenants as to course of cropping," but that avails but little in many cases. A bad farmer will keep no fat stock, cultivate little and badly, hoe no weeds, buy no cake, but sell all his corn, bringing back no manure; impoverishing the soil by dairying cows, or rearing lean stock for sale. On this system the land gets poorer every year, and at the end of a long lease can only be let at a great reduction of rent, or be taken into the landlord's hands to be put into condition. In fact, it is no uncommon thing to find such a farm dilapidated in soil, roads, buildings, and fences, the ditches full, and the drains choked. I

am frequently told by landowners that they have to take the farms into their own hands to get them into condition before they can let them at their proper value. It is, therefore, highly desirable, when you have a good and improving tenant, to keep him on the farm, to aid him in his improvements, and, at the end of his lease, make equitable arrangements, and not compel him to leave the farm by surcharging him on his own improvements. A fair system of outgoing valuation of tenants' improvements would remove the temptation of demanding extortionate rents. Some of our Scotch farmers get sadly punished at the end of their nineteen years' lease, for I believe they have no claim for drainage or other permanent improvements, and farms are generally or frequently advertised to let to the highest bidder. As a natural consequence, many Scotch farmers are driven to the cheaper land of the south, while their improved farms fall into the hands of men who exhaust their improvements, impoverish themselves, and cannot sit out the lease. I am glad to learn from a competent authority that many Scotch leases are pre-arranged four years before the termination of the old lease. This is to be commended, for it prevents exhaustion of the soil, injury to the tenant, and damage to the general welfare. There is no fear of anyone coveting the farm of a bad tenant, while there are plenty anxious to take and exhaust the farm after a good one. Therefore, too often, the bad farmer has a much more secure tenure than a good one. I know of many noble estates managed so admirably that concurrent benefit accrues to the landowner, tenant, and labourer. What a happy thing it would be for this country if such bright examples were availed of and multiplied! Low rents and bad farming generally go hand in hand, for the obvious reason that non-improvement impoverishes the land and diminishes its rent. I think that where a tenant understands his business, and invests from £14 to £20 per acre capital on the farm, he should not be restricted as to cropping or selling hay, straw, or roots, excepting for the four years preceding the termination of his lease. With such a capital there must be plenty of fat live stock, which is a certain guarantee for the fertility of the soil. He should of course be bound to consume on the farm a quantity of corn or cake equivalent in value to the straw, hay, and roots sold. The growth of beet for sugar-making or distilling will necessitate high farming. Stringent clauses in the lease should bind the tenant to keep the ditches and outlets of drains open and in good condition, to trim the fences annually, and keep the farm roads in order, providing they were in proper order when he hired the farm. Seeing how varied and varying is the human temper, it is not to be expected that everything will always go on smoothly, therefore it is desirable to have a clear and well-defined understanding or agreement at the commencement, with a hope that all will prove harmonious and pleasant. A wise landowner will have his farms of various sizes, adapted to varying capitals. From the recent Board of Trade statistics, we learn that there are plenty of small farms in the United Kingdom. Industry, frugality, and talent are the parents of capital. I know many large farmers who thus created their present large money capital. I do not quite agree with a farming friend of mine, who says that he never knew a young farmer to succeed who began with a money capital of £10,000. He says that his habits would be generally too expensive, and that he would depend too much upon others, instead of attending personally to his own affairs. I am doing a good service to landowners by commending to them Mr. Alexander Jemmett's system of farmers' and landowners' accounts. A wise landowner will, either himself, or by his agent, have a list of persons likely to prove desirable tenants.

In conclusion it is quite clear that the landowners of this kingdom have not the capital, or perhaps the skill to farm their own land, or even, in many cases, to make the necessary improvements; therefore every proper encouragement should be given to those who make farming their business and means of existence, by granting leases and proper valuation for tenant's improvements, also the right of sale or transfer. The advantage of such a system finds its evidence and illustration in every British town and city—Belgravia and Tyburnia have been raised upon cabbage gardens, not by the owners but by the lessees, who make their calculation of profit on a prolonged lease. Similar results would follow in agriculture under similar conditions. A landowner might increase his rental, and get permanent improvements effected on his estate by granting to men of capital and enterprise leases,

varying from 20 to 50 years, with powers of sale or transfer as in towns, and the sole right of sporting and freedom from political dictation. Were this done, the change would be almost magical—agricultural Belgravias and Tyburnias would soon present themselves; first-class homesteads, residences, and labourers' cottages would quickly supersede the present mean and shabby inefficient farm arrangements. Good roads, square fields, and good fences would come as a usual consequence; wet lands would become dry and sound by drainage. Unfortunately the laws of entail considerably bar the way, but must ultimately be modified. Where a landlord treats his land simply as a means of obtaining an income all this might be reasonably done. Of course there might be a sacrifice of political influence and rights of sporting, but, practically, the relative influence of Whig or Tory would not be altered were the practice I have named to become general. Capital will never flow amply and freely into the agricultural channel until this is done, and then the meanness of British agriculture would disappear, just as in our great cities, where enormous outlays of capital under secure tenure and political freedom have superseded the mean buildings and residences of antiquity by comparative palaces. Has not all this vast change been for the good of the country as well as the landowner? Has it not, by attracting and attaching capital, enormously employed and benefited the industrious millions, from the miner and the bricklayer's labourer and their employers, to the conveyancer and architect? It has given immensely increased profit to owners of land, and multiplied the consumers and users of its produce. Our clays and limestones have been converted into bricks and mortar. Let us then throw aside our ancient prejudices, and take as business-like a view of agriculture as of commerce, trade, and manufactures. Let us look upon the soil as the raw material to be worked up by skill and capital, and rendered a more available means of employing and feeding more abundantly and cheaply the people of Britain. The co-existence of an overflowing capital, finding employment abroad, with a superabundant unemployed population at home, is a dangerous anomaly, threatening in its continuance ruin to our country. Agricultural improvement would absorb much of that vast increase of rural population, which can now only find or seek for employment in our already too amply populated towns and cities. No population can be too numerous if they are all profitably employed. We know, from unerring statistics (witness the cotton famine and Irish potato failure), that marriages and population are dependent upon, and influenced by, prosperity or adversity arising from employment or non-employment; therefore, when improvements cease or permanently diminish in this country, farewell to its wealth, tranquillity, dignity, and power. May that melancholy and humiliating period be long deferred!

Mr. GEORGE ANDREWS (Rimpton, Sherborne) said he was sure they all felt greatly indebted to Mr. Mechi for the able paper which he had read (Hear, hear). But there were one or two observations in it which struck him as not being quite correct. As regarded Scotch farming, he happened to know something of the South of England. Mr. Mechi said it was being invaded by Scotch farmers for the sake of the large profits which were likely to be realised there; but he (Mr. Andrews) knew scarcely a Scotch farmer for 50 square miles in the West of England. A few years ago he heard of Scotch farmers who had come to the south, but they had almost invariably left with a strong feeling that when they took a farm at a certain rent they had not quite discovered all that they had to pay—(Hear, hear)—that they had, in fact, to pay a variety of taxes, local and general, which tenants had not to pay in Scotland (Hear, hear). One of the great difficulties which an English farmer had to contend against when he had taken a farm on a long lease was, that while laying out his capital on improvements he did not know what charges might not be imposed to swallow up the profit on his investment (Hear, hear). He had known a case in which a gentleman having taken a farm on lease and spent five or six thousand pounds the first year or two, the very next year the assessment was raised from 25s. to 35s. per acre. He noticed that Mr. Mechi passed very lightly over the iniquitous charges on the soil for local taxes. If there were one thing which more than another would enable great improvements to be made it was the untaxing of what that gentleman called the raw material, that was the land. If land which paid no rent

were by means of an outlay of capital upon it made worth 20s. an acre it seemed to him very hard that it should be taxed to the extent of 15 per cent. During his own experience of 30 years the kind of charges to which he had alluded had been doubled—100 per cent. additional had been taken out of his profits, and he was without any chance of redress, simply because he happened to be an owner as well as an occupier.

Mr. MECCHI observed that the same thing happened in London. Whenever property there was improved the assessment was raised.

Mr. CALDECOTT (Warwickshire) said Mr. Mecchi's statement that he had put 32 questions reminded him that a former Bishop of Peterborough put 87 questions to persons who were to be examined with regard to the 39 Articles. But there was one important question which Mr. Mecchi omitted. He included the character of the landlord and the character of the agent, but he forgot the question what was the character of the landlord's purse, and whether the estate was likely to be sold (Hear, hear). He (Mr. Caldecott) had known a great many improving tenants who had been "sold" by some arrangement of that kind (great laughter). As regarded the renewal of leases, he begged to say that he knew a great many Scotch tenants, and also knew one of the largest landowners in that part of the kingdom, and he could state that it was a not uncommon practice in Scotland to ascertain about four years before a 19 years' lease expired whether or not it was to be renewed (Hear, hear). What Mr. Mecchi said on that point was not a new idea: it was, in fact, a practice which had prevailed for many years among the best class of landlords and tenants in Scotland. There were, indeed, some very large landowners in Scotland who went upon the auction principle, but he could not say that he admired them (Hear, hear); and he did not think that system answered any good purpose. In England, tenants who had, with their families, lived on a farm from generation to generation seemed to prefer trusting to the good feeling of their landlords; but the difficulty in that which he had observed in his own country was this, that where there was a good landlord, a good agent, and improving tenants, misfortunes had come over the landlord and the estate had been sold to the sacrifice of the tenants (Hear, hear).

Mr. C. S. READ, M.P.: Mr. Mecchi has asked all the knowing ones and all the landlords present to give their opinions on the subject which he has introduced this evening. I do not happen to be a knowing one (laughter), nor yet a landlord, but at the same time I hope Mr. Mecchi will allow me to make one or two observations on the paper to which we have all listened with so much pleasure. Mr. Mecchi has now put forward a statement which I think he has made before in this room, namely, that on light-land £20 per acre may be profitably employed in farming. Well, I must say, I should be very glad indeed if he would prove that. I should be glad if he would be so good as to ask the gentleman to whom he alluded as being now in the room, whether he was still of the same opinion as he was when he made his statement (Hear, hear). I will venture to say that during the last three years the man who on a light-land occupation has spent the most money has certainly lost the most (Hear, hear); and if by any possibility that you are going to employ £20 per acre on such land profitably, I can only say, as one who has farmed light-land almost all my life, that I should very much like to be instructed as to how that can be done (Hear, hear). Mr. Mecchi has said a good deal about tenants and landlords, and also a few words about land agents. Will you allow me to add a few words about land agents? Many land agents of the present day are fashionable men. How did they manage as a rule to put themselves before the public? A smart young fellow goes to Cirencester College; while there he acquires a certain amount of knowledge of agricultural chemistry, and he gets by heart all the chief things which a farmer ought to know, and a great many more than he does know (laughter). After leaving college he begins life by writing a letter to the *Times* (renewed laughter). Having made a flying visit throughout the whole of England he tells his admiring readers in the *Times* what he saw from a railway carriage (laughter), and reports upon the state of the crops, the state of the farm, and the want of that capital which should be employed in agriculture. He next opens an office in London, in some swell locality, and then, all of a sudden, a needy young nobleman, who wants to have his estate revalued, thinks

within himself, Where can I find a man so competent to perform that task as the gentleman who has written such an extraordinary quantity of lovely agricultural articles in the *Times*? (roars of laughter). This man goes down to the country, looks over the estate, pitches upon an unfortunate tenant who has expended an immense deal of capital on the land, and finding it in the best possible order, immediately raises the rent 50 per cent. (Hear, hear). He then goes down to the farm of some slovenly rascal, who has done nothing in the way of improvement, and after going over it says that he thinks he pays quite enough rent. That is a sample of the manner in which a great many of the estates in this country are now being managed (Hear, hear). I wish that when Mr. Mecchi next talks about land agents he would put such men as I have described into his category, and say a word or two about the immense amount of mischief they are doing, and seem likely to do for some time to come (Hear, hear). There is another evil in these days, and it is this—that almost everything must be brought to London. Good, practical agents in the country complain that all the work of the great corporate bodies—all the work, for example, of the Ecclesiastical Commissioners, must be brought up to one central office in London. However excellent the great land agents in London may be (and I for one admire their talents and their skill), it is impossible for those gentlemen to carry on a proper superintendence of the gigantic properties which are supposed to be under their control (Hear, hear). What, then, do they do? They take into partnership some smart young lawyer, who may perhaps be writing in the *Times*, thinking that he will greatly assist them in their office-work, and in the management of estates. It is gentlemen of this kind who go down to the country and value land that they know nothing whatever about (Hear, hear). And not only are partners in the great firms to which I allude thus employed (mind, I am now going to state what I know to be the case), but actually a great number of clerks are sent down to the country for the purpose of reporting on the state of farms and make valuations (laughter). Now, I say that so long as such a system is tolerated—and it is greatly on the increase in these days—so long will you find the tenant's capital instead of being attracted to the land driven from it altogether (Hear, hear). It has been suggested to me that there is another class besides large land agents, and that is the gigantic lawyers. I know something about them, and I must say that if the management of the great land valuers is bad in consequence of their being unable personally to superintend an estate, the management of a parcel of lawyers must, of necessity, be altogether wrong (Hear, hear). I perfectly agree with Mr. Mecchi that in a business point of view leases seem the best. I know, however, that there are many estates which are well managed and well farmed where the tenants prefer holding from year to year, and where the rent is, generally speaking, moderate (Hear, hear). If I were a landlord and wished to increase the rental of my estate, I should as a matter of course grant leases. I have known no estate where long and liberal leases have been granted that has not increased in value (Hear, hear); and on the other hand, I have never known an instance in which where the tenant has farmed from year to year without any Tenant-Right whatsoever, the estate has been much improved either in rental or cultivation. I think that what Mr. Mecchi has said about building leases has nothing whatever to do with farming (Hear, hear). The comparison which he drew will not hold water at all (Hear, hear). The large houses in Tyburnia which he talked about are places in which to spend money, and what we want as farmers is to find places where we can, if possible, make money (Hear, hear, and laughter).

Mr. J. A. WILLIAMS (Baydon, Hungerford) thought that when a man took a farm for 7 or 14 years it was but fair that the landlord should pay the tithe commutation, and then let his farms tithe-free. He believed it was the intention when the Tithe Commutation Act was passed that the landlord should pay it; but the landlord had placed the burden upon the tenant, and he thought it was better that the tenants should insist as a body that the landlords should take the payment on themselves. With regard to the burden of local taxes, it had been said that the Scotch farmers had been driven out of the south of England by having to bear the local burdens which did not fall upon them in Scotland, and which therefore had come upon them by surprise. Tenants were, he was sorry to see, very apt to say when these questions were brought before Parliament that they

were landlords' questions. Why not let the tenant deduct them from the rent as they did the Income-tax, and give the landlord an equivalent in the shape of rent? He could understand then that it would be a landlord's question. At the present time it was not a landlords' tax, because the tenant had to bear the burden. There was another important question as to the terms upon which the tenant had to quit. The majority of the landlords he knew were averse to granting leases, and would not do so. They liked to hold the notice to quit in *terrorem* over the tenants, and the consequence was, if a tenant chose to act in an independent spirit—as every English farmer ought to—he was liable to be turned out of his farm at six months' notice. He looked upon this as a disgrace to the British Legislature in the nineteenth century. Mr. Mechi had told us to expend £1,000 on every fifty acres. Fancy a man doing this, and then being liable to be sent to the right-about by a six months' notice to quit. He again asserted it was a disgrace to the Legislature that such a law should exist; it ought to be altered to two years. It was an important question for a farmer to consider before taking a farm. With regard to letting, he would only say, let the landlords look out, and secure good tenants.

Mr. H. LEEDS (Castleacre, Brandon) said Mr. Mechi hinted, he believed, at him, when he talked about £30 an acre, and Mr. Read had also referred to him in his remarks. Mr. Mechi, some years since, asked him how much money could be profitably employed on a farm. He said he thought £20 per acre, and if he had been asked the same question six years since, should have given the same answer; but during the last four years seasons had so changed that he should now say if any one employed £20 an acre he went into it as a speculation, as much as if he backed a horse for the Derby. He did not agree that a light-land farm could be cultivated with a small capital. A light-land farm required, if anything, more capital than a strong one. On a light-land farm you had to feed three-quarters of the turnips off with sheep and cake, and then to feed your beasts with cake and corn. Then there was to topdress your wheats at £1 per acre, and your barley when the roots were fed off before Christmas. The root crop also would cost from 35s. to 50s. per acre. And if all these *et ceteras* were put together, it would be found that there was little or nothing to spare out of £16 or £18 per acre.

Mr. WILLIAMS said that when he objected to six months' notice to quit he meant to advocate a two years' notice instead.

Mr. CLUTTON (Penge) remarked that if any tenant took a farm without taking into account the tithe-rent charge he would make a great mistake (Hear, hear).

Mr. TRETHEWY (Amphill) said the subject of the paper was a most important one. He was rather disappointed that the introducer of it did not answer more of the questions he had proposed, and that he had not gone more into detail. Of course a person going into a strange neighbourhood would make inquiry as to the properties of the land and the character of the people he would have to deal with. With reference to Mr. Williams' remarks, responded to by the last speaker, as to the tithe-rent charge, he thought every farm ought to let tithe-rent free (Hear, hear). And he thought an agent who let a farm subject to the tithe-rent charge being paid by the tenant made a great mistake, because if the tenant happened to leave without paying the tithe-rent charge the landlord would have to pay it; therefore, as a matter of precaution, a farm ought to be let tithe-rent free, and, moreover, if the tenant was in arrear for the rent at the time of leaving, in distraining for the rent the proprietor would have the opportunity of distraining for the tithe-rent charge also, which would be included in the rent, and therefore it was a sort of protection to him to let tithe-rent free. Mr. Mechi had observed that there were disadvantages in occupying under a needy landlord, and no doubt there was truth in that; but if the landlord was needy he could, under recent Acts of Parliament, improve his property by raising money for that purpose. There were in London Companies who were desirous of encouraging that sort of business, and it was a very easy matter to raise a large amount for drainage, or building, or anything of a permanent character, upon easy terms. Money might be borrowed for 35 or perhaps 35 years, upon payment of so much per annum as a charge upon the estate, no matter whether it was entailed or not. The Enclosure Commissioners had power to advance money in that way; and if any landlord wanted to raise money, there was the machinery ready to hand to do it. It was a very simple matter, and he had had much experience

in that way. In the first place, application was made for a certain sum to the Enclosure Commissioners, who would send down a gentleman to inspect the property, and certify whether the outlay would be of advantage to the property, because it would be manifestly unjust to lay out a sum of money if it would not pay the interest that would accrue. A great deal of prejudice existed against what was termed the Government system of drainage. When that system was introduced there were certain hard-and-fast rules laid down; which, however, was now not the case, and he had no difficulty whatever in arranging with the gentleman sent down to inspect as to what was to be done. He had conducted many of these matters without trouble or inconvenience. The first thing was to settle what was to be done, then to make the arrangement, and if the inspection showed that the thing would be carried out honestly, there would be no difficulty about it. Mr. Mechi had said that good farms very seldom came under competition. That was true; but he also stated that on large estates it did not often happen that there were bad farms, and here he did not agree with him, as he had known many bad farms on large estates, and yet no lack of tenants for them. He did not agree with Mr. Mechi when he said that dairy-farms and bringing up young stock must impoverish a farm. He thought it possible to do it without impoverishing the land, but it depended entirely upon how they treated the stock. Mr. Mechi also said that where it was practicable it was preferable to buy a farm, rather than to rent it, but he did not agree in that at all. A man farming his own land often farmed it worse than if he rented it. He knew many instances of young farmers with 800 or 800 acres of their own land, starting with income enough to keep them and their horse and gun; but when they got married, and had a family, they generally ended by mortgaging the farm, or selling it; and when they had sold it they were sometimes better off than before. As to game, it was a question which should be settled now, one way or the other. He had always objected to rabbits, and he thought if the ground-game had been kept down a little more, and the landlords had given their tenants a little more interest in the shooting, there would never have been the present outcry against the game that there was at present. As to the political dictation that had been referred to, probably the ballot would settle that question (cries of "Oh!"). He did not quite agree with Mr. Andrews as to local taxation. When a man took a lease for 21 years he would naturally be called upon to pay a great many taxes he did not contemplate. It was impossible to foresee 21 years, and when a farm was taken for 21 years it was a speculation, to a certain extent, whether the taxes became greater or less. With reference to what had been said by Mr. Read and Mr. Leeds, he did not think there was such a great difference between the cost of farming light land and heavy land. A farmer of light land would have to lay out most on manure, but heavy land required most expense in labour. He thought £20 an acre was generally more than was laid out in cultivation, and perhaps £10 to £15 would be nearer an average.

Mr. W. HARPER (Bury, Lancashire) said he thought it desirable that the complaint made by Mr. Andrews ought not to go forth as endorsed by the Farmers' Club. He seemed to make it a grievance that if a man improved his farm he was rated higher to the relief of the poor; whereas the same was done with any building, such as an hotel, a house, or a factory, if it was made more valuable to let. He thought nothing tended to injure the cause of the farmer more than putting forward grievances that could not be substantiated.

Mr. LITTLE (Lanhill) said he desired to bring the meeting back to the subject under discussion. When any man, young or old, desired to take a farm in a strange locality, it would be well that he should employ some practical man of the neighbourhood to give him advice upon the quality of the land, the payments or outgoings on the farm, and the character of the landlord and agent, and then he should make his calculations. It was useless to put down £20 an acre as the capital to be employed, as all depended upon the soil and the nature of the farm, whether pasture or arable, and its situation. He thought after these things had been pointed out to the tenant he had nothing to do but to make the best terms he could with the landlord. It was a commercial transaction, to be carried out in the usual way. If the tenant laid out any extra capital, he thought he ought to be allowed to get a fair return upon it without being called upon for any extra rent.

Mr. G. SMYTHIES (Leintwardine) thought that this subject had been treated generally too much as a tenant's question, and that they had not considered it enough as a landlord's business. He thought they would do better by trying to show the landlord that it would be to his advantage to give the tenant such a permanent interest in the land, that it would be to his profit to lay out more money upon it. It was all very well to say it paid to lay out money on land; but what inducement had the tenant to do it, unless he had some security? (Hear, hear). It seemed to him that this part of the subject was always blinked, and that they did not go into the landlord's question enough. Whatever might be said about the sum to be laid out—whether £10, or £15, or £20—it would not be laid out by the tenant without some security. Mr. Mechi said £20 an acre might pay. He did not think the speakers had done wisely to say that it had not paid for the last three years, because those years had been exceptional, and they ought to look to the average of years. He agreed with Mr. Trethewy, that there was not a great deal of difference between the capital required on light and heavy soils. If the land was heavy, they required an expensive team of horses, or a steam plough, and they cultivated at a greater expense; but then they had a mine of wealth in the subsoil, which answered the purpose of manure. In the light land all the manure they had must be put into it.

Mr. H. NEILD (Lancashire) said he thought the question of how to take a farm was a question which concerned solely the man who was going to take a farm, and if he could not judge for himself what the soil was, and what were the proper inquiries to make, he had better leave the business alone (Hear, hear, and laughter). As for the letting of a farm that was the landlord's business; and it was for the farmer to say whether he would give the rent after weighing the pros and cons. What he would like to see emanate from the Farmers' Club was some general principles on this subject, as the circumstances of the times had altered since the days of their forefathers. The farmers of the present day read wonderful publications, and attended learned lectures on chemistry, botany, &c., and yet were saddled with old antiquated covenants, which ought to be perfectly obsolete. A man should be left at liberty to farm according to the improved system of the age in which he lived. They had heard something about the element of land valuers. He was sorry to say there was a great disposition to re-value properties in this country merely as a bid for business. He said this with the knowledge acquired from old experienced valuers now retired from the business.

Mr. THOMAS (Bletsoe) said that with regard to Mr. Mechi's observation as to a tenant farmer going into a different district for a farm, he should not consider he was master of his business if he could not judge of the quality of the land he might find there. If he had to employ a land-valuer, he thought he would do better to stop at home altogether (Hear, hear). In the next place, if the landlord got a fit and right man for a tenant, he thought it was not to the landlord's interest to tie him down by rules which it was impossible to farm under. If he had capital, the landlord should let him alone, and he would manage the farm all right; and if he made a mistake or two, he would soon right himself, because it would be to his own advantage to farm well. As to the tithe rent-charge, he should have thought that was a question that was pretty well settled. The principal estates, he believed, were now let tithe rent free. If the tenant had to pay the tithe-rent, it might cause disagreement with the clergyman.

Mr. C. HOWARD (Biddenden) said he did not take exception to any of the remarks of Mr. Mechi. He believed there had never been a paper read in that room that would be better received in the country; for it contained good advice for the landlord and tenant and land-agent. If Mr. Mechi had read a paper twenty years ago on this subject, it would have been very different, and he congratulated him now on his modified views of agriculture (Hear, hear, and laughter). A great deal had been said about leases. He was himself strongly in favour of leases at one time, but he had lived long enough to think it would be better to have agreements subject to one or two years' notice, with liberal compensation clauses (Hear, hear), and then a tenant and landlord would not be bound to each other longer than they wished. Mr. Neild had referred to antiquated covenants, but he should remember that on all large estates the tenants were not all good farmers, and these cove-

nants, like our laws, were made for sinners (laughter). A good agent would shut his eyes to the good man but open them to the bad man, and that was the use of such covenants. He thought it right and proper there should be these healthy covenants. He thought Mr. Trethewy had spoken very much to the point on game, and as to the political part of the subject he was glad some gentlemen had changed their views as to the effect which the ballot would produce (laughter).

Mr. TRETHEWY said that he had not changed his views as to the ballot at all.

Mr. CLEMENT CADLE (Gloucester) wished to ask Mr. Mechi where the capital was to come from if farmers were to farm their own land and spend £1,000 upon every fifty acres. According to Mr. Mechi's calculation, a farmer of 300 acres of land would require £30,000 of capital as owner and occupier; and as he told us there were 20,000 new farmers every year, where was the capital to come from for all? Mr. Mechi also recommended people to borrow three-quarters of the money at 4½ per cent., the landlord to get 4 and the tenant 10 per cent. His experience did not show him how this was to be done. With respect to letting, there were few leases which gave the right to sell or transfer the lease; and he thought one great reason why capital was not more employed in agriculture was because it could be more profitably employed in other ways (Hear, hear). With regard to the remarks made by Mr. Read as to the Royal Agricultural College, he hoped they did not refer to him, for, although he was at the Royal Agricultural College, he was well up to the practical part of farming before he went there, having had to make himself master of every kind of work on his father's farm. He mentioned this, as he thought Mr. Read spoke slightly of the knowledge acquired at the Royal Agricultural College, which he did not believe he meant. He was at Cirencester, and the time he spent there was the best time of his life; and anyone going there would be able to learn things connected with farming he could not get elsewhere, and he considered every young farmer should go there (Hear, hear).

Mr. J. TRASK (Highleaze, Yeovil): It has been said in this discussion that landlords should call in the services of land-agents when letting farms, but Mr. Read had not given us a very high notion as to the competence of some of those gentlemen. It could not be expected that those who had no knowledge of practical farming themselves could give really good advice, and he thought landlords had much better consult practical farmers upon the subject. Under any circumstances, however, it was of the highest importance that a perfect confidence and understanding should exist between landlord and tenant. It had also been stated that Scotch farmers had not been able to farm in the south in consequence of the great amount of local rates, which they had not to contend with in Scotland. A bill was now before Parliament to introduce the Scotch system here, and if it was so much better than ours he should advise his brother-farmers to pause before they opposed it.

Mr. W. W. GLENNY (Barking) said with regard to burdens falling upon the farmer, when the Union Assessment Act came into force his rating was raised 40 per cent. It was a most important thing to consider that day by day the Legislature were adding fresh burdens, lunatics, and education, and now they proposed to add Election Expenses. They knew well that the occupiers of the land had to pay for all these things. Mr. Mechi had spoken about £20 being laid out profitably on land. Near London he had known £30 and £40 an acre laid out and got back again; in fact, the more that was spent on land the more was got out of it.

Mr. READ, M.P., said he had not intended to say anything disrespectful of the Royal Agricultural College at Cirencester. The instruction given was the best that could be given; but he had known young men from the public schools and Universities after spending a year or two at the Agricultural College fancying themselves perfectly fitted to be land-agents and farmers.

The CHAIRMAN said he thought the subject had been fully and fairly discussed. He only wished to say that he thought the system of holding farms under two years' notice preferable to long leases, because they constantly saw that people who held long leases very seldom sat them out.

Mr. MECHI, in reply, said with regard to the increased rating falling on improved farms it was only exactly what took place with the improvements of houses and buildings in all the cities and towns in the kingdom. If a man spent

£1,000 on his house in Middlesex, the surveyor very soon valued his house at an increased rate; and in his neighbourhood the assessment committee were very sharp, and valued his land at £1 per acre more than his neighbour's land. As to what Mr. Read had said, it was not fair to take three exceptionally bad years. The argument might be taken in regard to three exceptionally good years just as well; but they ought to take average prices. He was glad to hear what Mr. Cadle said about the Royal Agricultural College at Cirencester, because he was one of the first members of the Council, and he believed the College gave what was wanted, viz., increased knowledge and intelligence in agricultural matters.

He did not believe agriculture, on the whole, was unprofitable, because if it were so farms would be given up, and the landlords would be left to farm them for themselves. There was no reason, however, why they should not do all they could to render it more profitable by having a better understanding between landlords and tenants with regard to improvements (Hear, hear).

On the motion of Mr. BROWN (Cambridgeshire), seconded by Mr. THOMAS, a vote of thanks was given to Mr. Mechi for his paper.

A vote of thanks to the Chairman terminated the proceedings.

THE CENTRAL CHAMBER OF AGRICULTURE.

Special meetings of the Council were held in Salisbury Square, on Tuesday and Wednesday, May 2 and 3, for the consideration of the following subjects: The "Rating and House Tax" and rating and local Government Bills, the provisions of the "Intoxicating Liquors (Licensing) Bill," the question of Poor-law Medical Relief, and the proposed Amendments in the Constitution and Laws of Association of the Central Chamber. Sir Massey Lopes, M.P., the President, occupied the chair. A few new members were elected, including Sir W. Bagge, M.P., and Mr. Tipping, M.P.

A communication was read from the International Decimal Association, requesting the Chamber to petition the House of Commons and memorialise the Board of Trade in support of Mr. J. B. Smith's bill for establishing the metric system, the second reading of which in the House of Commons is set down for the 23rd inst.

Mr. PELL, M.P., stated that the Committee of the Chamber had met Lord Fortescue's Committee several times on the subject in the course of last year; but he thought the Council was scarcely competent to sign a petition on behalf of the Chamber without further consideration.

Mr. READ, M.P., said that on the previous day the Committee of the Central Farmers' Club signed a petition in favour of the bill.

The Secretary was instructed to furnish the International Decimal Association with a copy of the resolution come to by the Chamber in February last, as follows:

"That this Council in receiving the report of the Joint Committee on Weights and Measures, adheres to its former resolution, to the effect that all agricultural produce except liquids should be sold by weight only. That this Council appreciating the advantages of the recommendations contained in respect of the Joint Committee is of opinion that it is desirable in the first place to afford facilities for an increased acquaintance with the metric system by introducing instruction in its principles in public elementary schools."

The Chairman read the following report from the Local Taxation Committee.

The Local Taxation Committee, in presenting their report to the Council of the Central Chamber of Agriculture, beg to state that since the meeting of the Council on the 20th inst. the "suggestions" then offered by them, and accepted by the Council, have been widely circulated, and your Committee have reason to believe that they have been very generally approved of by provincial Chambers of Agriculture. The secretary to your Committee has attended by request at meetings of the East Suffolk Chamber at Ipswich, and the Chamber of the Peterborough District. He addressed the members of these Chambers on the present aspect of the local taxation question, and resolutions condemning both Mr. Goschen's bills were passed by large majorities. These resolutions will be presented to the Council of the Central Chamber. Your Committee have continued to give unremitting attention to the various clauses of the bills, and they feel persuaded that the more they are studied the more unsatisfactory they will appear. Your Committee beg to call attention to the fact that Mr. Goschen in the preamble of the Rating and Local Government Bill expressly excludes the metropolis from coming under its operation; but, having started with the determination to show that urban districts are more heavily rated than rural, it suits his purpose to include the local taxation of the metropolis when making a statement of the taxation of the country. Your Committee

contend that, if the operation of the bill is not to extend to the metropolis, the exceptional circumstances under which the metropolis is situated with regard to rating ought to be excluded in order to arrive at a just estimate of the relative local taxation of urban and rural districts—if it is necessary to institute such a comparison. Your Committee consider this comparison to be utterly useless; but, nevertheless, they are not afraid to meet Mr. Goschen on his own grounds, and from his own figures they are confident they can show that if metropolitan receipts be excluded the general burdens are very much the same in urban and rural districts. At page 4 of the report (No. 470) it is made to appear that—

Urban districts contribute	£13,000,000
Rural districts contribute	5,030,000

Leaving a difference of £7,970,000 in favour of urban districts. Now when the metropolitan contributions are deducted, viz.—

Metropolitan vestries	£1,484,000
City of London Corporation, &c.	1,835,000
Metropolitan Board of Works	2,109,000
Metropolitan Police	823,000

Making a total of £6,180,000

It appears that the amount contributed by those urban districts which will come under the operation of the Act is £6,180,000, whilst the rural contributions are £5,030,000. So that, in fact, the urban receipts exceed the rural by £1,150,000 only. Again at page 7 of the same report it is stated that the total of rates levied by all authorities is £16,223,000, of which Mr. Goschen states that £5,119,000 are levied by purely urban authorities, and £3,178,000 are levied by purely rural authorities. Now if the amount levied by the metropolis be deducted—namely, £2,110,000—it will be found that the sum raised—

By urban authorities is	£3,009,000
By rural authorities is	£3,178,000

thus proving that if the metropolis be excluded, the country contributes £169,000 more than the towns. It appears then plain to your Committee why the statistics of the metropolis were included, whilst the metropolis itself was expressly excluded from the operation of the Act. The fact is, Mr. Goschen had started with a pre-conceived theory that urban districts were more heavily rated than rural districts, and he was obliged to collect voluminous and deceptive statistics in support of this theory. Had he first compiled his statistics impartially, and then deduced his theory from them, the result would have been widely different. Again, Mr. Goschen has asserted that, whilst poor rates have increased in amount, the share borne by land has decreased; but he omits to show that, under the Union Chargeability and Assessment Act, a great proportion of the land has been reassessed. The rateable value of many parishes has thus greatly increased; but the intrinsic value of the land has not proportionally increased. Instances have been known where the assessments have been actually doubled. Your Committee will illustrate this by the instance of an hereditament formerly assessed at £100 a year, the rates being 3s. in the £. Under the Assessment Act this hereditament is reassessed at £120 a year. Supposing the expenditure for poor relief, &c., not to have increased, the rate would now be 2s. 6d. in the £, and, at first sight, it would appear that the ratepayer was paying less than heretofore. As a fact, he pays less in the £, but then he pays on an assessment of £120 instead of £100 on the same property, and the actual amount paid by him is identical with that which he used to pay, and his profits are diminished to the same extent. Your Committee also desire to call the attention of the agricultural body to a portion of the statement contained in Mr. Lowe's speech on the Budget

of the 26th of April last. And in order that there may be no misrepresentation the Committee think right to quote his own words as given in the *Times*. Mr. Lowe is reported to have said: "I could certainly show to the Committee a way in which, without imposing any further taxes on any class of Her Majesty's subjects, we could raise something like £2,100,000 of the sum we want. I allude to the subject of exemptions. We cannot endure that the nation at large should be tributary to any class whatever, but at this moment we are violating that principle in the most flagrant manner, because in our taxation there are the strongest and most sweeping exemptions which deprive the public of a great deal of money for the benefit of a particular class.

Let me read to the Committee a list of some of the exemptions which are now in force, and what they cost the country, because it must be remembered that every one of these exemptions from taxes has to be made up by the rest of the community, who are really tributary to these persons. Let me give a few of these exemptions:

Agricultural horses	800,000
Agricultural trade carts and waggons, say	1,000,000
Establishment licences in Ireland	80,000
Charitable and collegiate funds	50,000
Dividends belonging to foreigners residing abroad	70,000

Making altogether £2,100,000"

From this it appears that, as "coming events cast their shadows before," the trading and agricultural interest must prepare themselves for another attack upon their particular industry. On the 27th April, Lord George Cavendish, one of the staunchest supporters of the present Government, is reported to have said that Mr. Lowe "not only proposed to inflict heavy burdens, but he went out of his way to exasperate the landed interest by pointing to the farmers' horses, and saying that, although he did not propose to tax them this year, yet on another occasion the subject might be well worthy of consideration. Those who, on the Government side of the House, belonged to the landed interest, had supported many measures that had led almost to the annihilation of representatives of their class.

If the landed interest was to be treated in this manner it was time for some of the few remaining representatives of that interest on the Government side of the House to enter their protest against such measures. Your Committee would point out that the tendency of the proposed legislation is to tax stock-in-trade, whether belonging to the trading or the farming interest. If the farmer's horses are to be taxed all motive power and machinery should be also taxed. The small farmer, who cannot afford to use steam machinery, will find his horse taxed, whilst his richer neighbour, who uses such machinery, escapes taxation on that part of his business. In fact, it is a proposal to tax a farmer's stock-in-trade, while every other description of stock-in-trade is, by Mr. Goschen's bills, to be permanently exempt. In conclusion, your Committee would point out that, as Mr. Goschen's bills evidently tend to increase instead of relieve local burdens, they feel that they must exert themselves to the uttermost and use increased energy in order to effect this, and they feel it to be absolutely necessary to impress upon all who are interested in houses and land, whether owners or occupiers, the imperative necessity of contributing material as well as moral assistance. They feel confident that, if larger means were at their disposal, they could still more efficiently discharge those duties which have been delegated to them.

The Worcester Chamber has forwarded £100 towards the funds of the Committee.

On the motion of Mr. NEILD, seconded by Mr. BRAMLEY, the report was received and adopted.

Mr. HENEGGE, the Chairman-elect, moved "That in the opinion of this Council some of the administrative clauses of Mr. Goschen's Bills—namely, the consolidation of the rate and the demand note, the establishment of county financial boards, and the recognition of the principle of the application of a grant from imperial resources toward the reduction of the poor and other local rates are worthy of consideration; but that the Bills are most objectionable for the following reasons: that they continue the exemption of income arising from personal property from contributing its fair share to the general burdens; that the division of rates between landlord and tenant does nothing to relieve owners and occupiers of houses and land from any of the burdens of which they justly complain; and that the powers to be conferred on the proposed new Government Boards will still further restrict local self-government, and increase local expenditure." This resolution had come recommended by the Business Com-

mittee, and of those who were present at that Committee when the resolution was settled not one entirely approved of the Government Bills, whilst there were only two who expressed a qualified approval. If he were asked why not then condemn the Bills altogether? he would say in answer that it there were any little good in them, it was as well to acknowledge it. For example, there were two or three provisions which were unanimously recommended by the Select Committee of the House of Commons last year, and it happened also that incidentally, in one of the Bills, Mr. Goschen himself admitted the principle for which the Chamber was contending, though whether intentionally or not he could not say. There were only three courses from which to choose in dealing with the Bills. One was, to oppose the Bills *in toto*; another, to adopt the advice of Sir Charles Adderley with regard to including the sanitary clauses in a separate bill; and lastly, whilst expressing approval of what was good, to urge their strongest objections to that which was bad. He objected to the first of these courses for the reason he had already given, and to the second because it would involve approval of the administrative portion of the scheme, which would be placing the cart before the horse, and asking Mr. Goschen to put a bit into their mouths to enable him to drive them where he pleased hereafter. The third course was that indicated by the resolution he now proposed. Throughout the whole of last year the question of Local Taxation was the great question which occupied the attention of agriculturists at their various meetings, and at one of the meetings of this Council it was decided that the time had arrived for taking action on it in the House of Commons. Early in the present session, therefore, Sir Massey Lopes in a speech as remarkable for ability as for accuracy of the information it embodied, brought the question before the House; and although he was not successful in the division lobbies, there was no doubt of his having achieved a moral victory; because Mr. Goschen did not attempt either to tackle Sir Massey's figures, or to deal with the important subject of including other than real property for local taxation at all. In fact the right hon. gentleman did not go into the merits of the case, or the speech of Sir Massey Lopes, but appealed *ad misericordiam* to the House to let him bring in his little bills. He had since done so, and the question now was what the Chamber should do with them. For his (Mr. Henegge's) part, he should like to see them taken up and withdrawn; but not knowing what was likely to be their fate, the Chamber must deal with the case as it stood. He objected to their principle being affirmed, and hoped the Chamber would come to a unanimous and decided opinion respecting them that day. They might thank their stars that Mr. Goschen had introduced his bills; for had he not done so they would not have known the full extent of the *animus* with which he was filled toward the agricultural classes, or have become possessed of the figures upon which he rested his case, and which he had cooked so well, but which it was easy to show were nothing but trash. The statistics had not been collected, nor the bills drawn out to meet the wants of the nation. On the contrary, Mr. Goschen had evidently made up his mind to "dish" the agricultural classes, and with that object had first prepared a scheme to carry out his own preconceived ideas, and then got men to procure the statistics that were calculated to blind the country. This was not fair dealing with the agricultural interest, who, indeed, were still more unfairly treated when he came to apply those statistics. Why was the metropolis brought so prominently forward in one part of the measure, though they were told that the bills did not include the metropolis? Still, Mr. Goschen admitted that the agriculturists had a right to something; but at the same time he conceded as little as possible to the landed interest, whilst he secured as much as he could to his own friends. This acknowledgment he made when he proposed to hand over the house-tax for local purposes; thus through the attempt at a bit of jobbery in favour of his own constituents, the thin end of the wedge was got in, and it would be the fault of agriculturists themselves if it were not driven home. True, the benefits conferred upon the agricultural districts would be very small, and that the large towns would be the principal gainers, London alone getting £200,000, or a sum equivalent to a halfpenny income-tax spread over the kingdom. Nevertheless, there was the concession of the principle for which the Chamber was contending. The proposal to di-

vide the rates between landlord and tenant must inevitably lead to a new assessment, for all existing contracts between them would have to be revised. The result would, in all probability, be an increase of rates, and an extended ban on the income-tax upon farms, which might possibly render to the Chancellor of the Exchequer an additional amount of revenue sufficient to meet the portion of the house-tax which would go to the farmer. He did not think, therefore, that any rural or burgial constituency was likely to gain much from this part of the scheme. However, this one important admission was made that they had a right to expect that local rates would be supplemented from the Imperial Exchequer. Therefore, and even though that were the only good point in the whole scheme, he would say don't oppose the bills altogether. But there were some other good points in it, and these were the consolidation of the rates, the demand note, and the establishment of the county financial boards. Still, whilst Mr. Goschen proposed to do that little good, he seemed to have tried his utmost to make it as disagreeable as possible. He had included the sanitary and other district rates among the consolidated rates. At present farmers were only assessed at the rate of one-fourth towards the district rates; but, if these were all thrown into one rate they would have to pay their share alike with the houses, and this would be another pull at their pockets. He (Mr. Heneage) was in favour of the consolidation of rates provided all the clauses relating to sanitary measures were expunged from the bill. Then there was the demand note itself, which was to be payable in April. It was severely felt by the smaller occupiers even now to pay their taxes in January; and how much harder would it be felt by them to have to pay their local rates in April! The proposal relating to the election of chairman of the financial board, too, he looked upon as utterly ridiculous. He was not wanted, and it was difficult to say of what good he would be. One thing was clear, and that was, that he would not, as a rule, be the best man in the parish, for generally speaking the best men shirked the work. One feature of the bills from beginning to end was the quantity of "red tape" imported into them. Their direct effect would be to throw fresh expenses upon the agricultural interest, and for every little thing they offered to give that interest they took increased authority to the central board in the metropolis. They did not recognise in any way the principle of a more equitable distribution of local burdens. They did not acknowledge the duty of all to contribute towards the support of the poor, as laid down in the Act of Elizabeth according to their several abilities. They ignored the increase of rates for the militia, the police, gaols, lunatic asylums, and other purposes during the last 50 years. They kept out of sight the proposals made by the Government in the course of the past and present year for adding to the rates for education, highways, barracks and elections. If, then, existing burdens could not be removed it was an important thing to make a determined stand against the imposition of new ones. He objected to these bills, because they made no real change at all for the better, but increased expenditure, set town against county, landlord against tenant, endeavoured to sow discord in their ranks, extended the basis of the income-tax, bought off the neutrality of the towns by a bribe, made a show only of settling the matters in dispute, and divided interests which were naturally allied, and are working together for the common good (loud cheers).

Mr. HODGKINS, in seconding the resolution, said that although Mr. Goschen's figures might have been true in the main, they had been so manipulated as to mislead ordinary observers and gentlemen who did not care to examine statistics with minuteness. The hydra-headed monster of Local Taxation was placed before the Chamber face to face that day, and he must say that he was disgusted at finding that there was no further extension proposed of local burdens to other than real property. The agricultural interest had submitted to the most sweeping free-trade measures even to the last shilling of duty on the staple production of the land, for the general benefit of the community, whilst but a very small modicum of relief was vouchsafed by Mr. Goschen's bills. The country could not, therefore, be surprised at the agriculturists rising at length as one man, and saying to the Ministry of the day, "Unless some greater relief is given, beware lest the yeomen of England, the usual loyal supporters of order, of Government, and the Throne, are found no longer loyal, but, under the

sense of gross injustice; refuse not only to pay any further local burdens, but also refuse to continue carrying any longer those already imposed upon them"—which, as Mr. Goschen admitted, had doubled between 1843 and 1868. He contended that other kinds of property besides realty should be made to contribute its quota towards the local burdens, and referring particularly to the poor-rate, and the principle contained in the Act of Elizabeth, that every parishioner was liable to assessment according to his "ability," quoted some interesting examples of the practice which he had extracted from old rate-books preserved in the museum at Maidstone. Thus, under date of 1663, he found Percy Goring, Esq., paying 8s. 9d. for 20 acres of land, but for "abilities" 15s. Thomas English, Esq., for 60 acres paid 9s. 9d. towards the relief and setting to work of the poor, whilst he paid 12s. on the score of "abilities"; and Sir J. Tufton, Bart., for 56 acres paid 7s. 6d. for the relief and setting to work of the poor, but 12s. 6d. in the column of "abilities." He contended, therefore, seeing the great increase which had taken place since those times, and that the agricultural interest had to compete with the foreigner in the produce of the land, that nothing could be more just than that they should ask the country to adopt the principle that the "abilities" of gentlemen who, having colossal fortunes, were nevertheless paying a small modicum towards the poor-rate, should no longer be exempt, but be called upon to pay their fair quota for the relief of the poor. Let it be borne in mind that every new addition made to local burdens entailed upon every man who employed his capital in the land a charge five times as great as had to be borne by the gentlemen who lived upon an income derived from the public funds, mortgages, or other personal property. There was one portion of Mr. Goschen's scheme that must on no account be lost sight of—he meant the sanitary clauses, which made Unions the centre of administration. It was difficult to say what might not be behind them; but one thing perfectly clear was that they would be the means of incurring very considerable expense. In conclusion, Mr. Hodgkins said that the pressure of taxation upon the land had at length become so enormous that it wanted little more to make him and many others resolve to pay no more rates.

Mr. D. LONG suggested that the establishment of parochial boards would be an improvement upon the present system. If the house-tax, or any other sum from the imperial resources, were handed over to be distributed among the different parishes at a certain rate in the £, county financial boards might be of some use; but to distribute a grant from the imperial exchequer parochially, whilst the rate in aid of which it was given was levied over the Union area, was a very clumsy contrivance.

Mr. GEORGE ANDREWS remarked that but for the Annual Suspension Act every inhabitant would be liable to be rated, according to ability, under the Act of Elizabeth; and thus joint-stock banks and other large establishments would have to contribute to the union-rating in proportion to their profits, and residents in proportion to their means.

Mr. NAVILLE urged, as his chief objection to the Ministerial scheme, that it would make a new assessment of the land absolutely necessary, and was the commencement of that most pernicious system, the State dabbling with contracts. To put half the rates on the landlord would be followed by increased rent.

Professor BUND felt strongly in favour of the local government provisions, and those relating to the consolidation of the rates. As regarded the area, its proposed simplification was good, and the Chamber ought not to oppose it. County boards had for a long time been recommended by the local Chambers, and he thought it was a good provision in the Bill that the people who paid most to the rates were to have some control over their management. But the clauses which dealt with sanitary matters should be omitted altogether. When the Royal Commission reported on the subject, and sketched out what they considered the sanitary law should be, they suggested that the rates for improved sanitary purposes ought to be paid out of the Consolidated Fund, and that all the cost should not fall upon the land. The Bill of Mr. Goschen, however, whilst it provided a machinery for carrying out sanitary regulations, left the law in the state of chaos in which it found it, and did not carry out the recommendations of the Commission. The public health was far too large a question

to be disposed of in a measure of this kind, and should be dealt with in a special bill by itself.

Mr. HICKS regarded the proposal of the Government to transfer the house-tax as an admission that the grievances of the agricultural interest were well founded. So far it was satisfactory, but as a means of giving relief it was most objectionable, for it would go almost entirely to the towns, and not to the rural districts. The consolidation of the rates had an inviting aspect upon paper, but he believed it would be practically impossible to carry it out. For twenty-five years he had been chairman of the finance committee in his county (Cambridgeshire), and had always found it exceedingly difficult to make an approximate estimate of the expense even of a single quarter, and he defied any person to make an estimate of the county expenditure for 12 or 15 months. Consequently, the various boards would have to keep a large balance in hand, or run the risk of over-drawing their account from time to time. With respect to financial boards, Mr. Goschen's proposal, assuming that the parish board was fairly elected, and taking that as a unit, appeared to be a good one, though he warned the agricultural interest that that, like the consolidated rate, was somewhat visionary, and liable not to work satisfactorily, as a great portion of the county expenditure being payments under statute, was what the magistrates had no control over, except to carry out the law as economically as possible. It was unreasonable to expect gentlemen engaged in business to travel long distances, which they would have to do, and devote their time to looking after the expenditure of something like a penny in the £.

Sir G. JENKINSON, M.P., recommended that the Chamber should not specify in the resolution the parts of the Bills of which they approved, but merely state that some of the administrative clauses, without naming them, were worthy of consideration.

Sir L. PALK, M.P., said that the only portion of the Rating Bill which met the approval of the landed and agricultural interests, though it was a most illusive proposition, was the appropriation of the house-tax in aid of local rates. If the public finances were in such a state to enable the Chancellor of the Exchequer to give up that tax, it might be wise to accept it, because it was the recognition of an important principle; but inasmuch as the financial condition of the country was one of deficit this year, and probably of much greater deficit next year, this was a matter which should be looked at with suspicion, and treated with great consideration; for the tax would not be given up unless another was imposed in its stead. If the Bill passed into law, the rateable value of the land must again be assessed, in order to arrange the rates between the landlord and the occupier; and this would form a basis, and the basis would be greedily seized upon to augment the income tax upon real property and the burdens upon the land.

Capt. CRAIGIE approved of Sir G. Jenkinson's suggestion, and referring to Mr. Goschen's statement in the House of Commons that the rates were equally divided between landlord and tenant in Scotland, said that, as a Scotchman himself, he joined issue with the right hon. gentleman on that point. The fact was that some rates were divided between them, but others were paid only by the landlord, and others only by the tenant; and there was no custom in Scotland whereby all rates, irrespective of the purposes for which they were levied, were so divided. Neither was it the case in Ireland, for there, whilst the poor rate was divided, the county and highway rates fell entirely upon the occupier. Mr. Goschen also stated that he could not localize income, and that an attempt to do so in Scotland had failed; but the truth was that in Scotland, as in England, "ability" was the rule, and not property; and there was no record of the setting apart of any particular class of property to contribute alone to the relief of the poor, or any other purpose.

Mr. TURNER regarded the 43rd of Elizabeth, which made "ability" liable to be assessed for the relief of the poor, as furnishing a valuable weapon for attacking the exemption of personal property from the charge.

Colonel BRISE, M.P., deprecated the putting forth of exaggerated statements as calculated to injure the cause, but said there could be no doubt that the charges borne by the land were very heavy indeed, and not only so, but were increasing daily. If Mr. Goschen had made them a present of the land-tax as well as of the house duty, there could not have been so much cause to complain; for what was most wanted was in-

creased grants from Imperial sources to meet county expenditure. The handing over of the house duty to landowners and occupiers in the way it was done by Mr. Goschen was simply an insult. As to the division of the rates between landlord and tenant, there was a feeling in the country that that was an attack upon the owners and not the occupiers; but having looked thoroughly into the matter, he could assert most positively that, when the question had been well sifted, and both sides had been heard, it would be found to be as severe an attack, if not a severer, upon the occupier as upon the owner.

Mr. READ, M.P., wished to take the Chamber back just 21 years. On the 31st of February, 1850, Mr. Disraeli moved in the House of Commons—that the House should take into consideration (such a revision of the laws providing for the relief of the poor as might mitigate the severity of the pressure upon real property. Now, he (Mr. Read) wished particularly that the short quotations he was about to read would be listened to attentively, because they were words of wisdom and justice, and had proceeded from a great, a good, and an honest man. Now, this right hon. gentleman said—I am not speaking (observed Mr. Read) of Mr. Disraeli, mind you. I will give you the name of the speaker when I have done; and you shall judge for yourselves whether the description I have given of him is correct or not. He said: "He was willing to go into committee to consider what establishment charges and other charges paying poor-rates, or what expenses of management there were which, without injury to the great principle of local control, might be advantageously transferred to the Consolidated Fund. It was impossible to look at the nature of the tax for the support of the poor without being struck by the irregularity of its incidence. But the poor-rate was a tax levied for a special purpose; and what was it? It was an essential feature that police was connected with the poor, and also an essential obligation conferred upon religion. The maintenance of the poor had been recognised not only by the dictates of political prudence, but as the fulfilment of a religious duty, and if so it was a duty which applied equally to all property. As a matter, therefore, of essential justice, there was nothing more clear than that it was desirable that property should be in some measure liable to the support of the poor." Then the right hon. gentleman went on to say, how very difficult it was to rate personal property; and in a great measure we agree with him. Then, in answer to the taunt that was thrown out, that land had inherited all the poor-rates and all the local rates, and should therefore pay them, he said, "If the land had borne the burden of the poor-rate in connection with the protective system" (which was then abolished) "they had no right to plead the existence of such a system against the removal of the poor-rate when the other compensating system had been taken away." Let them next mark the concluding sentence of the right hon. gentleman: "He did not think that any one had denied that the relief of the poor was a purpose for which, as far as could be done, all property, and not one description of property only, should be liable." Well, who was it that spoke those words? The Right Hon. William Ewart Gladstone, the Prime Minister of this country! (Hear, hear).

Mr. NEVILLS GRENVILLE, M.P., did not believe that the Government meant to press their scheme through Parliament in the present session, but that it was a document thrown loose upon the country with the view of ascertaining the public opinion respecting it against another session.

Mr. BIDDLE thought it was only fair to the Government, whilst it would be useful to the local Chambers, that they should know what were the provisions of which the Council approved. To withdraw that portion of the resolution, therefore, would be a mistake.

Mr. SPENCER STANHOPE took objection to the mode of electing the proposed local boards, which would practically transfer to the cottagers the power of rating the landlords and occupiers of land. In addition, these boards were to be elected by ballot, and it was for the Council to consider whether it was desirable to introduce into rural parishes a system of voting which would enable every man to conceal the manner in which he had discharged his parochial duties. The county board proposed by Mr. Goschen was preferable to any hitherto suggested, but when once the parochial boards were elected he did not see the necessity of county financial boards. It would be sufficient, he thought, to depute a certain number of the members of parochial boards to act with the magis-

trates at the quarter sessions, and that the finance committee in counties should be constituted partly of magistrates and partly of members of those parochial boards.

Mr. LITTLE pointed out that by one of the clauses in the Local Government Bill, the man who occupied his own land would have no vote in respect of his ownership; whereas the owners of a couple of cottages had only to let their cottages one to the other, in order to become possessed of two votes each.

After some observations from Mr. MARTIN, Mr. KNIGHT, M.P., and a brief reply from Mr. HENEGAGE, the resolution was amended in accordance with the suggestions of Sir G. JENKINSON, and agreed to unanimously in the following form: "That, in the opinion of this Council, some of the administrative clauses of Mr. Goschen's Bills are worthy of consideration; but that the Bills are most objectionable for the following reasons: That they continue the exemption of income arising from personal property from contributing its fair share to the general burdens, that the division of rates between landlord and tenant does nothing to relieve owners and occupiers of houses and land from any of the burdens of which they justly complain, and that the powers to be conferred on the proposed new Government Boards will still further restrict local self-government and increase local expenditure."

Mr. CORRANCE, M.P., said he thought there was something more required of the Council than the resolution just agreed to, and that was to do what the licensed victuallers had done, and call determinedly upon their representatives in Parliament to pursue a decisive line of action. He moved, therefore, "That in the opinion of this Council the bills of the Government are entirely inapplicable to the just settlement of this question, and in accordance with such opinions it calls upon all members of Parliament to oppose those bills on the second reading, and that to this end it is expedient that the chairman of this Chamber and others associated with him shall move their total rejection under such form as Parliamentary usage will sanction."

The motion having been seconded by Mr. GENGE ANDREWS.

Mr. BRADON remarked, that in the late division on Sir M. Lopes' motion, forty-two county members voted against the hon. baronet, and that had these gentlemen only been true to their trust, that motion would have been carried. He had read the bills of Mr. Goschen through, but he acknowledged that up to that moment he could scarcely say what would be the best course to take with regard to them. One object of the right hon. gentleman, however, seemed to have been to get up a case that would justify a foregone conclusion. That ran throughout the whole of the evidence presented to him by the Privy Council, and much of the information contained in that evidence was valueless. It was not a collection of facts, but approximations to facts brought into a focus, for the purpose of throwing dust into the eyes of poor ignorant farmers. It was calculated to mislead, and the measure founded upon it was an insult to Englishmen. The Chamber ought, therefore, to show Mr. Goschen, Mr. Gladstone, their colleagues in the Government, and the forty-two county members he had referred to, that they were determined upon having justice done to them, and at the next election would vote for no man who did not pledge himself to support a motion of Sir M. Lopes, for making personal as well as real property contribute its fair share of the taxes.

Mr. N. GRENVILLE, M.P., approved of the motion up to the point where it began to dictate their course of action to the chairman and other members of Parliament.

Mr. KNIGHT, M.P., regarded it as a mere expression of opinion on the part of the Chamber that the Bills ought to be opposed on the second reading by those members of Parliament who represented counties. He urged that the Bills must be opposed at that stage, and condemned any shilly-shallying as certain to invite defeat.

Mr. HENEGAGE suggested, as an amendment, that the words "confer together in order to take the best and most efficient means for the purpose of rejecting those measures" should be substituted for the proposal that the chairman, and others associated with, should move their total rejection.

In the course of the discussion which followed Mr. WALKER urged that the Bills ought to be opposed on the second reading upon principle. Major PAGET, M.P., was of a similar opinion. He also described the Bills as undertaking to do too much, and as a kind of Holloway's ointment that was to cure

"all the ills that flesh is heir to." Mr. FOWLER and Mr. ARKELL were both disinclined to fetter the action of members of Parliament. Capt. CRAIGIE doubted if the Bills would ever come to a second reading; and Mr. WHITAKER expressed a hope that the constituencies would turn out every member of the House of Commons who voted for such unjust measures.

Mr. HENEGAGE was of opinion that if they did reach that stage they should be opposed. For his own part, he was a Liberal, but he hoped never to shrink from asserting his independence and saying what he thought; and he confessed that, at the present moment, he had not complete confidence in his own party in the House of Commons. Some of them required a little education; but why, he asked, should they tempt Ministers to go to a second reading? If they did that, the Government might go on calculating their votes until the end of the session, when they would get the Bills read a second time, and withdraw them.

Eventually the resolution was carried in this shape: "That in the opinion of this Chamber the Bills of the Government are entirely inapplicable to the just settlement of this question, and in accordance with such opinion it calls upon members of Parliament and others representing owners and occupiers of real property to take all legitimate means to oppose those Bills; that to this end it is expedient that the chairman of this Chamber, and others associated with him, should confer together in order to take the best and most efficient means for the purpose of rejecting those measures."

The CHAIRMAN, on the resolution being agreed to, said he was thankful for the confidence which the Chamber was disposed to place in him, but nothing would induce him to take the responsibility on himself. He had never done anything without consulting those with whom he was accustomed to act in the House of Commons. This question was not one of party, and he should therefore do his best to consult with members on both sides of the House. What they had to do was to throw their net as widely as possible in order to catch all the fish they could; and having secured the concession of a principle endeavour to get more by-and-by.

The Chamber then adjourned.

At the meeting of the Council on the second day, Sir R. J. Buxton, M.P., was elected a member of the Chamber.

Mr. T. ARKELL moved "That it is the opinion of this Chamber that the provisions contained in the Licensing Bill ought to be preceded by the repeal of the Malt-Tax, to enable the labouring classes to obtain a cheap and wholesome beverage at home, and thereby to put them on a par with the middle and higher classes, who can enjoy themselves at home without the necessity of using taverns and other refreshment-houses, as the labouring classes are now in a great measure compelled to do." Anyone who had read and considered the provisions of the bill must admit that a more un-English measure had seldom or never been submitted to the House of Commons, and he believed that the minority who proposed it would go down to posterity as the "Confiscation Government." They commenced with the Church, they went on to the land, and now they were attacking houses. [A Voice: "Pot-houses."] The bill introduced a secret spy system, and he thought that before resorting to such severe measures Parliament ought to take steps for securing to the labourer a cheaper and more wholesome beverage.

The resolution having been seconded by Mr. GENGE ANDREWS,

Mr. READ, M.P., said he was one of those who thought the Chamber had very little to do with the Licensing Bill, and that the only excuse they could have for meddling with it was that it would interfere very materially with the sale of cheap and wholesome beer. And as Malt-tax repealers had gone in for that; had said that beer was a national beverage, and that the labourers ought to be supplied with it, he thought the motion of Mr. Arkell was the only one the Chamber could pass. It was about the best result they could arrive at; and the Chamber, as Malt-tax repealers, ought to protest against the bill, because, instead of doing what they required, and providing that there should be less monopoly in the sale of beer, it created a gigantic monopoly, under which it would become impossible to have anything like a cheap article retailed to the poor man. The only doubt in his mind was whether the motion was not a little too strong, whether it

place of "repeal" it would not be preferable to substitute the word "modification," or "revision," because it would be a very long time before they would get a reform of the public-house system if they had to wait until the malt tax had been totally repealed.

Mr. CALDECOTT suggested as one objection to the bill that it provided for the infliction of additional local taxation. Upon referring to section 12, it would be seen that when the occupier of a new house applied for a licence a ballot of the parish was to be taken, at the expense of the licensing justices; and by section 86 it was enacted that all the expenses so incurred should be repaid the justices out of the local rates. There were several additional things to be done which were not mentioned in detail; for all the expenses of the proceedings, and the cost of publishing and advertising notices were to come out of the local rating. And as long as the present area of rating was adhered to, this was a little item to which he strongly objected. He could not agree with Mr. Arkell, that no reform of the public-house system should be adopted unless the Malt-tax were first repealed.

Mr. ARKELL explained that he did not go to the extent of saying that no alteration in the licensing system should take place until the repeal of the Malt-tax.

Mr. CALDECOTT: But the motion said "the provisions contained in the Licensing Bill ought to be preceded by the repeal of the Malt-tax." If it had used the term "some of the provisions" there could have been no objection; but any provisions that would put licensed houses and beerhouses on the same footing in respect of the time of closing, and limit the powers of the authorities in licensing new houses without the consent of the neighbourhood, would surely meet the approval of every body who was interested in the public weal.

Mr. SMITH was of opinion that some of the clauses in the bill were well adapted to meet the wants of the country, particularly of the agricultural districts, and that the local Chambers had done good service in calling public attention to the injurious effect of the unrestricted accumulation of beerhouses in country districts, the increase of which greatly added to the temptations of the people, who not being educated to exercise a moral restraint over themselves, and having no other resource, were almost entirely at the mercy of the keepers of these houses. A short time since, Mr. Read stated that there were some 800 publichouses and beershops in the city of Norwich for a population of 80,000, and that he (Mr. Smith) believed represented a state of things not at all uncommon in rural districts. In his own locality, in Essex, there was certainly one public-house or beer-shop to every 120 of the inhabitants. Deducting from that number the women and children, it was at once apparent how great must be the temptation to the men. Between his house and the nearest railway station, a distance of six miles only, there were not less than 18 beer-houses. All these his waggoner when he had to carry a load of corn to the railway had to pass; how then could they wonder if the poor fellow came home tipsy at night! From that point of view the law acted cruelly towards the working man; and when once the licensing system had been taken from the excise and brought under the control of the justices, it would be a great improvement. Again, as to the practice of adulteration, he did not charge the brewers with committing that offence; but there was no doubt that the keepers of beer-houses could not compete with their rivals in the trade without resorting to such improper shifts. Not long since a friend of his was in a brewer's yard, when the men were engaged in cleaning out a barrel from which they took a heap of tobacco tied up at one end and a lump of salt in a bag at the other. To such illicit practices as this the immense number of beershops drove their proprietors. He had no faith in trying to make people sober by Act of Parliament, and preferred acting upon their moral feelings; but the country had been sadly behind in the duty of educating the people, and the only places of recreation the agricultural labourers had were these beerhouses. One advantage which would arise from the bill was the restriction it placed upon the number of public houses in proportion to the population, the limit being one house to every 900 inhabitants. That might seem a harsh provision; but it could not be denied that it would be a great improvement. He agreed in all that Mr. Arkell's motion stated with regard to the Malt-tax; but he could not go with the proposal to wait for a reform of the licensing system, until the Malt-tax had been

repealed, which was altogether an indefinite period. In these circumstances he moved as an amendment, "That this council believes that Mr. Bruce's Licensing Bill is capable of improvement in passing through committees in the House of Commons, but that it is in its main principles worthy of the support of the country, and calculated to raise the social and moral condition of the people."

Mr. CALDECOTT seconded the amendment.

Mr. YOUNGMAN would be sorry to see the Chamber take up a position of obstructiveness in reference to this Bill, simply because they could not acquiesce in all its provisions, and thought that its enactment would furnish an additional argument in favour of the abolition of the Malt-tax. No doubt some great change was wanting in the Licensing Bill; at the same time it must be admitted that many of its clauses would tend to materially improve the condition of the agricultural labourers. He agreed that the number of licensed houses for the sale of intoxicating drinks was out of all proportion to the requirements of the people. In the parish in which he resided, for instance, there were not less than 10 beershops and public-houses for a population of 900, and it must be evident on the face of it that they could not all be maintained by carrying out a fair and legitimate business. The clause relating to adulteration must consequently tell considerably upon such places, and that which limited the number of these houses, although not an absolute limitation, but subject to the concurrence of the ratepayers, must also have considerable effect for good. True, the opposition on the part of vested interests would be strong, and he was quite willing to recognise their just claims, but it was a little too much to concede the claims set up by vested interests in the drunkenness and immorality of the country. As to the Malt-tax, farmers had a good case for its repeal, and if it were repealed the labourers would be supplied with the means of manufacturing a nutritious and an innocent beverage by the use of malt, duty free, and thus be saved from the temptations which surrounded them in the shape of beerhouses.

Mr. STANTIN observed that, so far as the Bill attempted to put an end to adulteration, it was decidedly worthy of support. The great cause of adulteration, however, was that the genuine article was so heavily taxed. He suggested, therefore, that they should ask for commutation of the malt-tax as a complement to Mr. Bruce's Licensing Bill. By doing this they would most effectually abolish the system of adulteration.

Mr. RIGBY said he should vote for the amendment on the ground that the tendency of the bill was to decentralization instead of centralization.

Mr. READ, M.P., described the main principles of the bill as robbery, spoliation, and confiscation. Until within the last few months the Government had been constantly encouraging the increase of public-houses. They had no right to do that, and certainly they had no right now to turn round and say to the men who created these houses that at the end of ten years the whole of their vested interests should be confiscated. That, surely, was the main principle of the bill; and if the Chamber accepted the amendment they would be going out of their way, for it had no connection with that principle. What they had to do as agriculturists was to consider whether it would aid their endeavours in getting a repeal, modification, or commutation of the Malt-tax; and any resolution with that object he should be happy to support.

Mr. GEORGE ANDREWS had been much struck with the vigour and energy with which the parties effected by the bill were opposing it; and he was convinced that if the amendment were carried, the Chamber would greatly damage their own interests with one of the largest and most influential classes in the country, who might on some future occasion help them materially. It would go forth to the public that they were deciding in favour of a measure that was sure not to pass, and that would never reach a second reading.

Mr. NEILD supported the original motion, though upon different grounds from those put forward by Mr. Andrews. He did so not with the object of promoting the views of the licensed victuallers, and conciliating their support at some future time, which was rather a low consideration to act upon, but because he concurred with Mr. Read in thinking that the licensing bill was unjust in principle, and a violation of everything that an Englishman had a right to expect from the hands of a paternal Government. To offer men inducements to embark their property in a particular business for the purpose of

creating a revenue, and then to sweep them away, was an act of almost unparalleled despotism.

Mr. WALKER supported the original motion.

The CHAIRMAN, before putting the amendment, said that if it were adopted it would be virtually an approval of the main principle of the Bill, and he did not think the Chamber was prepared to go that length.

The amendment was then put and negatived by a large majority, only four hands being raised in its favour.

Mr. PELL, M.P., then moved as an amendment, "That the efforts made by this Chamber to secure better and cheaper beer by a modification of the Malt-tax will be impeded by those provisions of the Government Licensing Bill which are designed to aggravate a monopoly adverse to the interests of that large class for whom beer is a necessary beverage." This proposition, he thought, commended itself to their approval by reason of its moderation; for it was of no use to meet and pass resolutions which were manifestly of such a nature that they could not be carried into effect by legislation.

Mr. HONDSOLL seconded the amendment.

Mr. T. HORLEY believed that, if the bill were passed into law, it would have the effect of creating an immense monopoly. All the available houses would be bought up by merchant princes. In fact, he heard a great brewer say, the other day, that in twelve years' time they would be unable to get a glass of bitter beer in the City of London. He believed that a man ought to be able to buy his beer and have it in his house, the same as he had his milk (Hear).

After some conversation, in which Capt. Craigie, Mr. Adie, and Mr. Caldecott took part, the Chairman reminded the Council that at its meeting on the 17th of February last it passed a resolution to the effect that the Council urge the Government, when reviewing the general licensing system of the country, to consider the unjust pressure of the Malt-tax on the growers of barley and the labouring classes, who are the great consumers of beer. The resolution they were now considering was the sequitur of that.

Mr. ARKELL having withdrawn his resolution, the proposal of Mr. Pell was agreed to.

On the motion of Mr. LITTLE it was also resolved that the cost to be incurred in administering the bill ought not to be defrayed from the local rates, but might be fairly made a just charge upon the revenue derived from licences.

Capt. CRAIGIE moved, and Mr. RIGBY seconded, "That, whilst disapproving provisions of the Government Licensing Bill, this Council is of opinion that the prevention of adulteration and the undue increase of public-houses are fitting subjects for legislation."

Mr. HENRAGE suggested that the Council was in danger of getting too many irons in the fire, that the object which it had in view was to oppose the Local Taxation Bill, and that the licensed victuallers, who were a strong body, might very well be left to take care of themselves. If the Chamber occupied itself in looking after other people's affairs as well as its own, it would by-and-by be reproached with being a political society. He hoped, therefore, to hear no more of the Licensing Bill, but that they would go on to the next business on the paper.

The motion upon being put to a show of hands was negatived by a considerable majority.

The Council then resolved itself into Committee, and proceeded to consider the proposed amendments in the constitution and laws of association of the Central Chamber of Agriculture.

After some progress had been made it was agreed to defer the further discussion of the subject to the November meeting, members in the meantime to make the secretary acquainted with any fresh proposal they might have to make.

"The Privy Council Order of the 20th of April" then came on for consideration, and Mr. DUCKHAM, who dwelt upon the necessity of rescinding the order as soon as possible, moved the following resolution, which was unanimously carried: "That the Secretary shall correspond with the associated Chambers, and urge them to take immediate steps to introduce the Order of September 20, 1870, instead of the Order of April 20th."

Lastly, it was determined "That the business of the June meeting be: (1) To consider all bills and proposals before Parliament involving any increase of charges upon local rates and (2) to consider the subject of Poor-law Medical Relief."

A vote of thanks to the Chairman terminated the proceedings.

DINNER OF THE CENTRAL CHAMBER OF AGRICULTURE.

On Tuesday evening, May 2, a dinner was held at the City Terminus Hotel, Cannon-street, when about 100 were present. The chair was taken by the President for the year, Sir Massey Lopes, M.P.

After the usual loyal toasts, Sir JOHN PAXINGTON and Sir JOHN HAY answering for the Army and Navy,

Mr. HENRAGE proposed "The Houses of Parliament." He said, although he could not but regret that there was present that evening only one representative of the House of Peers, he was consoled by the fact that the views of the Chamber were represented in Parliament by other Peers besides that noble lord. Especially did he rejoice that one noble lord, who did not belong to the same political party as himself, and who was held in the greatest respect by all parties for his abilities and his character as a statesman—he meant the Marquis of Salisbury—had taken up the great question of local taxation, and dealt with it in a most satisfactory manner. As regarded the House of Commons, he was sure they all felt grateful to those members who had voted with Sir Massey Lopes on that question, and he hoped that many of those who were in favour of allowing Mr. Goschen to present his little bill were not disposed to let the question be settled, if they could help it, upon the principles on which that Bill was founded. There was a rumour that evening that they had done with the Local Taxation Bill altogether, and that Ministers having obtained one vote, would not give the House of Commons a chance of voting again; but he protested against the Government being allowed to withdraw the Bill without an opportunity having been afforded for exposing the false figures and calculations placed before the country by its author. Mr. Goschen was, it should be recollected, a City man, and was not very likely to understand that question; and it certainly did not speak very well for his figures, that when their chairman and other gentlemen criticised them at a recent meeting of the Statistical Society, the gentleman who furnished them, Mr. Purdy, got into a passion, in which he broke down, and entirely lost the thread of his discourse. He proposed "The Houses of Parliament," coupled with the names of Lord Vernon and Mr. Ward Hunt (cheers).

Lord VERNON, who was greeted with loud cheers, said: When I came here this evening, I certainly did not at all expect to be received with such honours as have just been accorded to me. I did not expect, indeed, to be the only representative of the House of Lords, and I am the more surprised at that fact because I find myself surrounded on all sides by members of the House of Commons (Hear, hear). If any person who was a stranger to the proceedings of Parliament were to come into this assembly, and to judge of the work of the two Houses of the Legislature from seeing the number of members of the House of Commons who are enjoying the good things of this life at this table and the solitary representative of the House of Lords, he would perhaps at once come to the conclusion that the most diligent branch of the Legislature is the Upper House (laughter). However that may be, gentlemen, I am sure the House of Lords will continue, so long as it is allowed to last in this country, as an integral part of the constitution (cheers), to consider carefully and dispassionately all measures which may be submitted to it; and I feel perfectly sure that, in proportion as the country is inclined to progress, the House of Lords will be ready to fall in with measures which, after careful consideration, the House of Commons has sent up to it (Hear, hear). I wish to take this opportunity of thanking the Chambers of Agriculture generally for the great assistance which they have recently afforded me and my colleagues in the performance of a very difficult duty. I was perfectly well aware that in appealing to the Chambers of Agriculture and the Boards of Guardians in reference to the matter to which I allude, we were asking them to go beyond what was strictly in accordance with their duty; but at the same time I felt that the very unusual circumstance of the members of an English association having become banded together for the purpose of assisting a large body of agriculturists abroad was a sufficient excuse for trespassing on their time and attention (cheers). I firmly believe that a very great amount of good has been done among those foreign agriculturists to whom I allude. I shall not be surprised if I

find, when we have added up the numbers, that at least forty thousand families have been benefited; and I am enabled to state that the recipients of the bounty of the English agriculturists have expressed on all sides their deep gratitude for the aid which has been afforded to them (cheers).

Mr. WARD HUNT, M.P., said: The House of Commons is very much what the constituencies make it; and if the present House be not to your mind, all I can say is that it is for you to bestir yourselves and see whether you can improve it. The means of accomplishing that object have been greatly extended of late years. Five years ago you had no such agency as Chambers of Agriculture, and the institution of these Chambers has been a very powerful means of bringing under the notice of many members of the House of Commons the wants and wishes of the agricultural community. A few years ago if we wanted to ascertain what were the feelings of those whom we represented—I say “we” because I represent an agricultural constituency myself—there were very few persons to whom we could have recourse for that purpose. Persons who are occupied in the cultivation of the soil are, as a rule, not very fond of sitting down after they have come home from their fields and inditing long letters to their representatives in Parliament. I have sometimes had the greatest difficulty in learning what were the opinions of my constituents on some important question especially affecting them that was coming before the House. Under those circumstances, I often had recourse to one part of the agricultural community, the landlords. Of course, the occupiers of the soil had their opinions; and no doubt while they were regaling themselves at the market-table, after the bargains of the day were concluded, they expressed their opinions among themselves very freely. But there was the greatest difficulty on the part of members of the House of Commons in getting at those opinions: they wanted the sort of focus which is now supplied by the Chambers of Agriculture. The change which has occurred is a very great convenience to agricultural representatives in Parliament. I will only say further that I hope the influence of these Chambers will extend, and that if you find that the interests of agriculture are not properly attended to in the present House of Commons, you will do your best to secure a better representation of those interests in future Parliaments (cheers).

The CHAIRMAN said, I must now ask you to drink the toast which is most directly connected with the object of this gathering, namely, “The Success and Continued Progress of Chambers of Agriculture” (cheers). When we bear in mind that these chambers have not yet been established six years, I think we have reason to congratulate ourselves on the progress which they have made, not only in numbers, but also in organisation. I am told that there are now upwards of ninety Chambers either directly or indirectly affiliated to the Central Chamber, and that these Chambers comprise upwards of 18,000 members. When the formation of these Chambers commenced there was some little criticism in reference to them—there were some jealousies and some prejudices to be encountered; but I was as strongly convinced then as I am now that the principle on which they were founded was good, sound, and politic; and when we remember that the discussions which have taken place in them have been characterised by so much moderation, so much ability, and so much judgment, we cannot feel surprised that jealousies and prejudices have vanished. These Chambers have brought together landlords and tenants, the two classes who are most deeply interested in the cultivation of the soil, and thus a vast deal of unanimity and good feeling has been secured among two most important classes. Agriculturists were before isolated; they never acted or consulted together—they were driven about like a flock of sheep; and although they growled and barked, they did not know how to bite. These Chambers have supplied a great want, solved a great problem, and enabled you to become a useful organisation and a great power. I do not think we shall ever find any difficulty now in resisting attacks, from whatever quarter they may come. I would ask you, gentlemen, what without these Chambers would have been our present position as regards the question of local taxation? Our grievances have now, at all events, been heard, our remonstrances listened to. But for the establishment of the Chambers, we should have had no prospect whatever of any redress. In these days, individual energy in Parliament will avail nothing, unless it be backed by public opinion out-of-doors. Without that, let the case or the cause be ever so good, all that you can say in Parliament is like

talking to the winds; but, on the other hand, if you have a good case or a good cause, and are also well backed out-of-doors, you may rest assured that you will ultimately prevail. Now I would remind you that one great principle on which the Chambers of Agriculture were established was that of carefully eschewing and studiously avoiding all party politics, and discussing only subjects in which the whole body of agriculturists are interested. I am delighted to find assembled at this table men of various shades of political opinion. I see my friend Col. Tomline, my friend Mr. Heneage, and other gentlemen, with whom I am in the habit of acting on such questions as I have just referred to. Although we differ on other subjects, yet we are perfectly agreed on one point, namely, the necessity of resisting anything which tends to injure that great agricultural interest with which we are all connected (cheers). I would remark that it seems to me to be the bounden duty of every man who is connected with real property, whether in the form of land or houses, and whether he be landlord or tenant, owner or occupier—I say it is his bounden duty in these days not merely to countenance, but to give moral and material support to, the Chambers of Agriculture (cheers). There has hitherto been a certain apathy and indifference among some landowners in reference to this matter, and we must speak the truth. We have lately seen evidence of the necessity of awakening to a proper sense of the present state of things, and I do trust that we shall for the future find a greater number of those to whom I have alluded taking an interest in the Chambers. If gentlemen who are connected with real property require anything to rouse them from their lethargy, I would ask them to read carefully the two Bills relating to local taxation which have been recently introduced by Mr. Goschen in the House of Commons (Hear, hear). I would also recommend them to ponder the very ominous words used by the Chancellor of the Exchequer in bringing forward his Budget, in which he pretty plainly intimated that the Government might consider whether they could not put a tax upon agricultural horses, carts, and waggons (Hear, hear). Bear in mind that his object appears to be to tax exceptionally the motive-power, the machinery, and the stock-in-trade of the cultivator of the soil; while the measure of Mr. Goschen does away with the liability to taxation of the stock-in-trade of all other industries. If those to whom I allude are not sufficiently stirred-up by these facts, I would ask them to “read, mark, learn, and inwardly digest” the very remarkable pamphlet which has been lately issued by Mr. Mill and the Land Labour League (Hear, hear). If anyone asks me what is the use of Chambers of Agriculture, I reply that those Chambers, through their large combination and the harmonious co-operation which they secure of all classes connected with the land afford the best insurance, the safest guarantee, and the only security against robbery and wrong in these days; and, moreover, that they promise to secure the only effectual remedy against the most monstrous anomalies and the most palpable injustice (loud cheers). In conclusion the Chairman announced that the toast would be responded to by Mr. A. Pell, M.P., Mr. C. S. Read, M.P., Mr. G. F. Muntz, Mr. Walker, and Mr. Varden.

The toast having been drunk with the honours,

Mr. A. PELL, M.P., said it was now nearly six years ago since the question of the formation of agricultural chambers was first broached. When the movement commenced it was proposed to give it the title of “The Agricultural League,” but the founders had the good sense to avoid a title which was so objectionable, and which would have given to the movement a somewhat narrow and selfish appearance which belonged to the term “League” (Hear, hear). The present name was then chosen, a name which was considered with the object in view, that of affording agricultural occupiers and owners opportunities of meeting and consulting together to protect and promote their common interest. He need not tell them how well the movement had progressed. He himself had the honour to be the first chairman of the Central Chamber, and he must say that he did not find it very difficult to start the ship. He was succeeded by the late member for Shropshire (Mr. J. More), whose absence from Parliament showed that even the chairman of the Central Chamber of Agriculture could not always secure a seat (laughter), and that gentleman was succeeded by Col. Tomline, and by that excellent Farmers’ Friend Mr. Clara Sewell Road (cheers). He believed that the chairman for the

present year, Sir Massey Lopes, would find plenty of work to occupy him.

Mr. C. S. READ, M.P., said there were three points which influenced him in supporting the Chamber movement. The first point was that he believed it would produce a better, more lasting and truer union of interest between landlord and tenant. On this point he felt that landlords would have an opportunity of learning for themselves what were the legitimate wants of tenants, instead of having to rely on the diluted intelligence of agents or the garbled statements of game keepers (cheers). When two people who had certain relations towards each other were prevented from meeting, there was little chance of their agreeing, but when they had opportunities for conference their differences would perhaps be found easy of adjustment (he was now speaking as a tenant-farmer), and thus they would learn the advantage of unity. He felt confident that unity would not be interfered with in the least degree by the pitiful attempt of Mr. Goschen to divide the rates between owners and occupiers, and thus to divide them. Another consideration which had influenced him was the question how it had come to pass that the middle-classes in towns had so much more power than the middle classes in the country. They had not more intelligence, nor as a rule were they better educated, but until Chambers of Agriculture were established they were far more united for any common purpose. The last point which weighed with him was that Chambers of Agriculture were likely to prove one of the great safeguards of local self-government. In Boards of Guardians and Highway Boards there were to be found good men and true who would adorn almost any station, and it must be a great advantage if such men had a wider scope given to them and were enabled to bestow more attention on matters of local and Imperial interest. He thought they had every reason to congratulate each other on the progress of the movement up to that time, and he trusted that the three main ideas which he had mentioned—unity between landlord and tenant, increased intelligence and power on the part of the middle classes in the country, and a more equitable system of local taxation, would be carried out through the establishment of the Chambers of Agriculture (cheers).

Mr. G. F. MURTZ said he supposed that the reason why he had been selected to return thanks was, that he represented one of the largest Chambers in England, and had taken great interest in the question of the constitution of such Chambers. The remark that that was the fifth birthday of the Central Chamber reminded him that the importance of that event must be estimated with reference to the future. That was indeed a remarkably strong child, but its power could not be fully known until it became a man; no one could foresee what strength Chambers of Agriculture would acquire. It was impossible fully to develop an organisation of that kind in so short a period. It was only five years since the Central Chamber was established, and he could wish that the movement commenced fifteen or twenty years ago in order that its strength might by that time be in full operation.

Mr. WALKER, in responding, said that among the disadvantages under which the English farmer laboured was this—that after he had spent his best days in practical farming almost every counter-jumper in England fancied that he understood the farmer's business better than he did himself. Another great disadvantage was that he was unfairly handicapped in the race of life as regarded local burdens, and he must say that, in his opinion, all the wealth of England ought to be made to contribute towards the support of the poor (cheers).

Mr. VARDEN also returned thanks, and observed that an illustration of the influence of that Chamber was afforded on that occasion by the presence of three of the county members, and of the right honourable gentleman the member for Droitwich (Sir John Pakington) (cheers).

Mr. C. WREN HOEKINS, M.P., proposed "The Royal and other Agricultural Societies." After remarking that if he were not present at the actual birth of the Royal Agricultural Society, he was at its christening, he said a striking illustration of its vast extension was afforded at the recent Oxford Meeting, where the scene of the first meeting was so small that it could hardly be discerned by the side of the enormous 60-acre pieces then used for the stock and implements. He rejoiced that that Society had always kept itself, in accordance

with its charter, absolutely free from politics. What was it that broke up one of the most interesting agricultural societies that this country had ever seen—a society of which Sir John Sinclair was the Chairman, and Arthur Young the Secretary? The intrusion of politics. The absence of that element was to any agricultural society a tower of strength; and if he might venture to offer a word of caution to the Agricultural Chambers, which had attained such a wonderful growth in five years, it would be that they should not allow themselves to indulge in any political feelings, as nothing could more tend to check their prosperity. After alluding to the national Scotch and Irish Agricultural Societies, Mr. Hoekins went on to express his desire for an increase of the number of small owners of land, observing that ownership had the advantage of tending to the largest and most permanent investments in the soil.

Mr. F. W. KNIGHT, M.P., alluding to Mr. Hoekins' remarks about politics, said he must remind him that Chambers of Agriculture were called into existence expressly to deal with what might be termed the politics of agriculture, the rules of the Royal and other agricultural societies precluding any discussion of such matters (cheers).

Mr. MASEN, in responding, said he did not believe that any great grievance in England, after being fairly stated and properly complained of, could long remain unredressed. Mr. Gladstone had remarked that it was not desirable that a large part of the community should be left in a state of chronic discontent. The agricultural community had long been in that state, as regarded local taxation, and the grievance had now become intolerable. They were very patient, but there was an end to almost all patience, and in their case that end had now arrived. The British farmer would not shrink from his fair share of public burdens, but when more than that share was imposed upon him it would be found that he had the same power of resistance as commercial men (cheers).

Mr. CALDECOTT, after observing that he did not concur in Mr. Wren Hoekins' view in reference to politics, said he felt that the whole agricultural community owed a deep debt of gratitude to the Central Chamber for the leading part which it had taken in that movement.

Mr. J. HEMSLEY expressed his regret that the jealousies which had arisen between the Chambers and some of the other agricultural societies had not yet ceased to exist.

Mr. T. HORLEY then proposed "The Chairman," who filled a double capacity—he was the chairman of the Central Chamber and he also presided over the Local Taxation Committee, and in both positions he had shown great ability. His recent speech in the House of Commons on local taxation excited admiration on both sides of the House, and was a remarkable example of eloquence and statesmanship (cheers). He was quite sure they all felt how necessary it was that their worthy Chairman should receive the support of all the members of the Legislature who were connected with the agricultural interest (cheers). However earnest he might be in the cause, there was a limit to his powers, and he required to be well supported by those who held similar views. He (Mr. Horley) believed that Central Chambers of Agriculture tended to unite together more closely the three great classes most directly concerned in agriculture—namely, the landlords, the tenant-farmers, and the labourers, and it was in that belief that he joined the Central Chamber. As regarded the Chancellor of the Exchequer's idea of taxing the motive power of agriculture, he thought that involved the taxing of the motive power of all manufactures, in fact of all motive power employed on sea and land (Hear, hear).

The toast having been drunk with the honours,

The CHAIRMAN, after thanking the company for its cordial reception of the toast, said he had felt from the first that the Chambers of Agriculture would become a great power and a great organization, and he was sure they would, by their usefulness, more than repay them for all the time and labour bestowed on their proceedings. Mr. Horley had alluded to him as the chairman of the Local Taxation Committee. That committee had certainly used its best efforts to ventilate the question with which it was specially entrusted, and he felt sanguine as to the result. Great public interest had been excited in the question, and he was confident that if they only kept the ball rolling, that interest would greatly in-

crease (cheers). The Government had been trying to sow the seeds of division between owners and occupiers, but he hoped the Chambers would not assent to any proposal that tended to disturb the good feelings which existed between landlord and tenant. Mr. Goschen had shown himself a strong partisan. Having taken a brief for the towns he had proved himself an able representative of his own constituency (laughter). It had often been said that you might prove anything by statistics, and even in the presence of a former Chancellor of the Exchequer he must say there appeared to be some foundation for that remark. The figures of Mr. Goschen were most ingeniously put together, but as a whole the statement made was most disingenuous, and he had no hesitation in saying that it was quite possible to show that different conclusions from those drawn by Mr. Goschen might be arrived at from his own figures (Hear, hear). The Government measure on that subject would, no doubt, produce two results; and if it were not intended to do so, it would increase the amount of local taxation, and it would set owner against occupier, and town against country. Mr. Goschen's conclusions were arrived at by means of the grossest and most glaring sophisms; and, although he should be sorry to say anything unbecoming of that gentleman, who had he believed, worked as hard at the Poor-Law Board as any man that ever presided over it, yet he could not help expressing his regret that he had not turned his talents to better account (cheers).

Sir G. S. JENKINSON, M.P., proposed "The Central and other Farmers' Clubs." He said that, as the representative of a large agricultural constituency, he by no means undervalued those excellent and important institutions. He had for a long time been a member of the Central Farmers' Club, and he believed that it had done a great deal to benefit agriculture and to improve the relations of landlord and tenant. In concluding, Sir George sharply criticised the figures of Mr. Goschen, and especially his assumption that real property paid no por-

tion of the forty millions raised under the heads of customs, excise, assessed taxes, and post-office.

Mr. GEORGE SMYTHIES said he rose, on behalf of the Central and other Farmers' Clubs, to return thanks for the honour which had been done them. Those Clubs being older institutions than the Chambers of Agriculture might be regarded as, in some sense, their parents, and they were, no doubt, proud of being the progenitors of such a lusty offspring. Mr. GEORGE WISE also returned thanks for the toast.

Mr. MORE then gave "Chambers of Commerce." He said last year the Associated Chambers of Commerce did them the honour of inviting their President to attend their dinner. A return-invitation had now been sent to them, and he was sorry that it had not been accepted, as it would have been rather interesting to hear what the President of a great commercial body thought of that gathering.

Mr. W. SPENCER STANHOPE, in returning thanks, remarked that he believed the only reason why he had been asked to perform that duty was that he came from the great manufacturing county of Yorkshire. He was not in any way engaged in commercial operations.

Mr. C. NEVILLE, after returning thanks, proposed, as he stated with the consent of the Chairman, a toast which was not included in the programme, namely, "The tenant farmers of this country," observing, that the prosperity of agriculture depended to a great extent on good feeling between landlords and tenants, and that as a landowner he himself did not desire to exercise any rights or privileges at the expense of his tenants (cheers).

The toast was drunk with the honours, and Mr. Beardall briefly responded.

Capt. CRAIGIE then gave the last toast, namely, "The Secretaries of Chambers of Agriculture," for which the Secretary of the Central Chamber, and also Mr. Thomas Willson, and Mr. J. Blick returned thanks.

LOCAL TAXATION.

At a meeting of the Devon Chamber of Agriculture in Exeter, to receive the report of a committee appointed to consider Mr. Goschen's Bills on Local Rating, and Government and Local Taxation, Sir John Duckworth, Bart., in the chair, among the preliminary readings was an announcement from the Central Chamber in London. "Ay, ay," said Sir John, meditatively, "but there's to be a dinner, that's the point." It was said that only deputies could attend the discussions, and now would be the time to appoint any gentleman deputy that wished to be present. Some one sagely suggested that they had better wait to see what they should send a deputy for. Whether any deputy or deputies were appointed did not transpire.

At the meeting, a fortnight ago, it was resolved to petition Parliament to adopt the Metric System of Weights and Measures, which was ably advocated by Earl Fortescue. A form of petition was now produced, and signed by the chairman for presentation.

The SECRETARY then read the report of the committee appointed to investigate the Bills already named, which concluded thus: "Your committee abstain from passing any opinion of their own upon the various contemplated changes in the establishment of County Boards, but they desire to be allowed to say that they are such as demand the very serious and careful consideration of this and all other Chambers of Agriculture throughout the country, since upon the adjustment under the present Bills of those various details will necessarily turn the smooth working of local government for probably a long series of years."

The Rev. W. H. KARSLAKE, chairman of the committee, moved the adoption of the report, and also of a petition to Parliament founded thereon, which ran thus: "That your petitioners have read with interest a Bill introduced into your Honourable House on the 4th day of April instant, intitled 'A Bill to make better provision respecting the liability of property to local taxation and for transferring the inhabited house duty to the parochial authorities.' That whilst they

thankfully recognise the justice of the removal of exemptions from liability to assessment to local rates of certain descriptions of real property, they observe with deep regret that no provision is contained in the said Bills for removing or lessening in any adequate degree the unjust incidence of taxation upon one description of property for the purpose, wholly or in part, of maintaining objects of national importance even where these have been practically placed by the Legislature beyond local control, and their administration would be little benefited by independent local supervision. Your petitioners would therefore pray your Honourable House not to pass the said Bills without such amendments as will provide for the support, either wholly or in great part, of objects of national importance by taxes raised equally from all kinds of property."

Earl FORTESCUE seconded the motion.

Mr. GEORGE TURNER did not hold with the exemption of personal property from being rated to the poor; if that class of property was not to be taxed, then Chambers had spent much of their labour in vain.

Earl FORTESCUE did not mean to exempt it from being taxed, but not in the shape of rates.

Mr. W. WIFFELL did not desire to see local taxation extended to personal property. As a tenant farmer, if he were to ask the Legislature to tax personal property he should be asking it to take the burden from his landlord's shoulders and place it upon his own. Sir George Jenkinson had given notice of a motion for asking Parliament to tax personal property, and he showed very conclusively that the whole effect of such a measure would be to double the taxes upon him, as he would have first to pay income-tax under schedule D, and next on the value of his farm stock, which was generally estimated at about £1,000 for every 100 acres farmed. Mr. Turner might farm his own land—in that case it would be only taking it from one shoulder and putting it on the other, but in the case of the tenant farmer it was simply transferring the impost from the owner to the tenant.

Mr. TURNER wished to know if the man who might have a million in the Funds was not to pay a farthing of local taxation?

Mr. HOLLEY argued that it was much the same thing whether the money were paid in the shape of tax or rent, and proceeded to show that the sixteen millions of local taxation was paid on about a hundred millions of real property, while the income-tax was levied on some 360 millions. He urged the importance of a correct and equitable valuation of property for rating purposes.

The CHAIRMAN had not the slightest hope that personal property would be rated, nor much that the Bill would be passed this session, yet he thought that if all personal property were rated Mr. Wippell would himself feel some benefit

from it. Some apprehension had been expressed that this formidable Bill of Mr. Goschen's would repeal the celebrated 43rd of Elizabeth, but Sir John thought it was only so much as would enable certain things exempted by that Act to be rated. He did not like the thought of that not being repealed—he had great veneration for the 43rd of Elizabeth, he was born under it and lived under it all his life, and he should not like to witness its removal.

Rev. W. H. KESLAKE was afraid the Bill repealed the Assessment Act which had been of so much value. To repeal that Act would be the most inconsistent thing ever done.

Earl FORTESCUE suggested that some one of the county members should be requested to ask the Government whether it was intended to repeal the Assessment Act.

LOCAL TAXATION.

At the meeting of the Staffordshire Chamber of Agriculture, Mr. R. H. Masfen, the president, in the chair, Mr. Brawn moved the following resolution, which had been agreed to by the Lichfield Chamber: "That the Government Bills on Local Taxation are undeserving of support, inasmuch as while proposing to rate the small portion of real property which hitherto has not contributed to local funds, they propose to continue the present unfair exemption of the vast amount of income derived from personal wealth, thereby affirming the unjust principle that owners of one kind of property only should bear the burden of supporting institutions the advantages of which are shared alike by the entire community."

Mr. BOOTH seconded the resolution.

The Earl of LICHFIELD said, that having very carefully considered Mr. Goschen's proposal he could not help feeling that the resolution went very much further than he should have been inclined to go when it declared that Mr. Goschen's bills were undeserving of support. He for one felt very much indebted to Mr. Goschen for the very able and comprehensive attempt he had made to deal with the confused and, he might almost say, the chaotic state of things which had hitherto prevailed with regard to our local government. Considering the difficulties with which Mr. Goschen had had to contend, and the fact that he had not the experience which many sitting round that table had had in dealing with important local affairs, he thought that very great credit was due to him for the attempt he had made to introduce something like system into our local government. He was perfectly aware that in bringing forward his measure Mr. Goschen had entirely failed to meet the grievance which had been so frequently and so ably put before the public on behalf of the owners and occupiers of real property, and this bill afforded no satisfactory answer to the simple question whether one class of owners of property were called upon to pay burdens for the advantage of other classes of the community, and whether they were asked to bear too large a share of those burdens. With regard to the burdens entailed by lunatic asylums, gaols, police, and the cost of prosecutions, there was no doubt that one class of property was called upon to bear too large a proportion, and he did not think that Mr. Goschen in his speech at all met the case. He scarcely attempted to deal with it, and his (Lord Lichfield's) opinion was that Mr. Goschen himself believed that the case as put before him was unanswerable, but unfortunately it was quite clear that he could not have made any proposal for relieving that class of property which complained that it bore too large a share of local taxation without very considerably increasing the burdens of the taxpayers generally. The financial difficulties which had been created to a great extent by the present Government, placed insuperable difficulties in the way of Mr. Goschen doing any such thing. It was obvious that the Government had quite enough to do to provide for the estimated expenditure of the year, without attempting to increase it by relieving the class which so justly complained, and transferring a portion of the burden to other classes of the community. This being the case, he considered that Mr. Goschen, as an individual member of the Government, deserved great credit for the attempt he had made to deal with this question of Local Taxation as a national question, and he must not be blamed too much because he

had been unable to touch the particular question which the members of that Chamber considered to be a grievance on the part of the owners and occupiers of real property. He had never attached that degree of importance to the question of the incidence of local taxation which some people had, and he should hardly have cared to see it raised; but it having been raised, he was bound to look at it and give it his most serious and careful consideration. The speeches of Sir Massey Lopes and others had convinced him that there was a grievance to be remedied, and that all classes of the community should bear their fair share of local burdens. In his experience he had never known farmers or owners of real property show the slightest disinclination to bear the fullest share of the burdens which could rightly belong to them; and if it could be proved that they did not in other respects pay their fair share of taxation, he did not believe that they would show the slightest disinclination to have those burdens fairly put upon them. He entirely approved of Mr. Goschen's proposal for dividing the burden of local taxation equally between the owner and the occupier. He was not quite sure that there was a great deal in it, but he was certain that it was a very fair proposal. Although it might be said that the burden of local taxation really fell upon the owner of property, he knew perfectly well that inasmuch as it was not the habit of landlords to be continually revising their rents, any increase of local taxation fell upon the occupiers of farms. And up to the present time who had been responsible for that increase? The owners of property. This being the case, he had always felt it to be unfair that the tenant should bear the whole of the burden, but he did not think that he should have taken the exact course which Mr. Goschen had adopted. He should have preferred giving a full and fair representation to the occupiers upon the boards which administered the funds of the county or district. He had always been in favour of this, but on the whole he should have been inclined to leave the burden with the occupiers as it was before. Still he considered that Mr. Goschen's proposal was perfectly unobjectionable, and he had made up his mind that whether it was carried or not he would from next Michaelmas put himself as an owner of property upon the same footing which Mr. Goschen contemplated. He intended to make arrangements with all his tenants to share all local rates equally with them (Hear, hear). He did not think that any one of his tenants would for a moment suppose that the landlord was to bear the whole cost of this. They had taken their farms upon the clear understanding that the local rates were to fall upon them, and none of them would think it right that the whole of the burden should be transferred from a tenant to his landlord, especially when they considered what the effect must be upon a landlord with a limited income. They all knew how onerous were the responsibilities of a large landed proprietor, and when they considered that the sharing of the local rates with their tenants would make a difference of at least 9d. in the pound on their whole income, he should like to know how many landlords would be driven by such an increase of the burdens thrown upon them to give up living upon their property. He believed that there would be many in this position. He would take, for instance, a landowner with £10,000 a-year. Let them consider what his responsibilities were, what he had to keep up when living

at his own country place, and what the difference to him in income would be if he had to pay an extra charge of 9d. in the pound upon that income. What he proposed, therefore, to do was to take the average of the rates for the last two or three years, and make a fair addition to the rent, paying for the future half the rates, whatever they might be. He repeated that he could not go the length of Mr. Brawn's resolution in condemning Mr. Goschen's measure. There was so much that was good in it, so much that showed a disposition to deal with this great question in a comprehensive spirit, that he would gladly see that Chamber give credit to Mr. Goschen for all the good which his measure contained, and leave the question of the incidence of local burdens to be dealt with at some future time, feeling confident that justice would in the end be done.

Mr. BRAWN said that for the first time in his life he was unable to understand his lordship, who asked them to excuse the payment of a just debt because the Government was in difficulties. He was happy to hear Lord Lichfield's approval of the proposed division of the rate between landlord and tenant, and he knew that there were many other good features in the bill; but he objected not so much to what the measure did as to what it left undone. Believing that the Chamber ought not to support the bill, he should adhere to the resolution as it stood.

The CHAIRMAN expressed his approval of several of the provisions of Mr. Goschen's Bill, though he agreed with Mr. Brawn that they afforded no remedy for the great grievance of which Chambers of Agriculture had complained.

Mr. W. T. CARRINGTON said he would support a resolution affirming that Mr. Goschen's Bill did not sufficiently recognise the claims of the owners and occupiers of land to some relief, but he considered that the one proposed by Mr. Brawn was of too sweeping a character. If Mr. Goschen's Bill passed, farmers would have much more power over local expenditure than now, besides having the proceeds of the house-tax at their disposal.

The Earl of LICHFIELD said that without at all wishing to cause dissension upon a point as to which agriculturists had so clearly made out their case, he would propose an addition to Mr. Brawn's resolution, which would then read as follows: "That the members of this Chamber are of opinion that thanks are due to Mr. Goschen for having attempted to deal in a comprehensive spirit with the important subject of local government and rating; but while approving of many of the proposals contained in Mr. Goschen's Bill, they see with surprise and regret that the Local Taxation Bill fails to provide a remedy for the present unfair exemption of the vast amount of income derived from personal wealth, &c."

Mr. BRAWN withdrew the original resolution, and Lord Lichfield's amendment, having been seconded by Mr. Robotham, was put to the meeting, and carried unanimously.

The Chamber then adjourned.

HALF-RATING.—At the Meeting of the Staffordshire Chamber of Agriculture Lord Lichfield announced that at Michaelmas next he intended "to make arrangements with all his tenants to share all local rates equally with them. He proposed to take the average of the rates for the last two or three years, and make a fair addition to the rent, paying for the future half the rates, whatever they might be." Of course this making up in rent just as much as is taken off in rates is what it will all come to. The meeting was in the first instance going "a header" against the Government measures as "undeserving of support," but on the interference of Lord Lichfield this proposal was readily abandoned, and the thanks of the meeting passed to Mr. Goschen "for having attempted to deal in a comprehensive spirit with the important subject of local government and rating." There is nothing like bringing landlord and tenant together, or as Mr. Sewell Read said at the Chamber dinner, "When two people who had certain relations towards each other were prevented from meeting, there was little chance of their agreeing, but when they had opportunities for conference their differences would per-

haps be found easy of adjustment (he was now speaking as a tenant-farmer), and thus they would learn the advantage of unity. He felt confident that unity would not be interfered with in the least degree by the pitiful attempt of Mr. Goschen to divide the rates between owners and occupiers, and thus to divide them."

THE GAME EVIL.

At a general meeting of the Commissioners of Supply for the County of Aberdeen, Mr. Fordyce, M.P., moved that the meeting should not petition Parliament in favour of the Lord Advocate's Game-Law Amendment Bill. After a discussion on the merits and demerits of the Bill, the meeting proceeded to consider the following motion by Mr. Gordon, of Parkhill:

I. The question of game has of late become one which threatens to disturb the cordial relationship hitherto happily existing between the proprietors of land in this county and their tenants. This meeting deeply regrets the existence of such a state of feeling, and being desirous, if possible, to remove all just cause of grievance, proposes that a friendly conference should be held with the tenant-farmers on this subject.

II. That a committee be appointed for the carrying out of this resolution, and to report to a special meeting to be called for that purpose.

After a long discussion the following committee was appointed to meet with an equal number of tenant-farmers; Mr. Irvine, of Drum, Convener to the County; Colonel Innes, of Learney; Mr. C. Dalrymple, of Kinnellar Lodge; Major Ross King, of Tertowie; Mr. Fordyce, M.P.; Mr. Fordyce, of Culah; Captain Shepherd, of Kirkville; Mr. Gordon, of Cairness; Mr. Ferguson, of Kimmundy; Mr. Davidson, of Deaswood; Mr. Leslie, of Warhill; Major Ross, of Tillieorthie; Mr. Edmond, of Kingswells; Sir John F. Clark, Bart.; Mr. Grant, of Drimmar; Mr. Gordon, of Parkhill, Convener. Sheriff Comrie Thomson, who had been previously communicated with, agreed to act as Chairman. Presumably, therefore the game grievance will be discussed from the landlords' and tenants' point of view in the county of Aberdeen, if the farmers of the county agree to the proposal of a Conference, and appoint an equal number to represent their views.

THE HILL AT NORWICH ON MARKET DAY.

In the exhibition of the Royal Academy, there will be found in the fourth room a cattle piece by Mr. Barwell, a Norfolk man. The crowding of the beasts in the fair or market is well conceived, but the picture has something of a foreign air about it, heightened probably by the kind of corridor or raised walk from which you look down on the busy scene. Prominent here are sketches of two well-known Norfolk agriculturists—Mr. Sewell Read and Mr. Robert Leeds; the former of whom is easily recognised, the white hat being very faithfully rendered, but the likeness of Mr. Leeds is by no means so good.

EAST LOTHIAN AGRICULTURAL SOCIETY.—The usual show of spring corn took place in the corn-exchange, Haddington, when the premiums were awarded as follows: Ten quarters of Chevalier barley—premium, Mr. Innes of Phantassie. Ten quarters of best barley of any other approved variety—premium, Mr. Wilson, Sheriffside. Ten quarters of best potato oats—premium, Mr. Purves, Pressmennan. Ten quarters of best Hopetoun oats—premium, Mr. Henderson, Samuelston Mains; commended, Mr. Roughhead, Myrside. Ten quarters of best Sandy oats—premium, Mr. Wyllie, Bolton; commended, Mr. A. J. Balfour of Whittingham. Ten quarters of best oats, of any other approved variety—premium, Mr. Paterson, Ewingston. Ten quarters of best Scotch field Beans—premium, Mr. G. Hope, Fentonbarns; commended, Mr. Wyllie. Ten quarters of best beans, of any other approved variety—premium, Mr. A. J. Balfour; commended, Mr. Handyside, Fenton. The judges were: Mr. Hogarth, Gimmersmills; Mr. Henderson, Longniddry; and Mr. Begbie, Queenstonbank. The samples were of excellent quality, but the entries not so numerous as last year.

THE BOTLEY FARMERS' CLUB.

THE FOUR-COURSE SYSTEM.

At the last meeting for the present session, Mr. W. Warner, the vice-president, in the chair, the subject for discussion was "The four course system—its evils and remedies," to be introduced by Mr. Hughes, of Market Harborough.

Mr. HUGHES said that before commencing his paper he must tell them it was partly written in the spring of 1870, and the prices referred to were those of the crop of 1869. He had left them, as it was well they should not forget them. He saw nothing in the higher prices which they had taken for last years' crop to alter his view of the future. The cause of those higher prices was unprecedented. He then proceeded as follows: It may be relied upon that the prospects of the corn-grower in this country call for grave consideration. Several influences exist and appear to be extending, which render the production of some of our standard crops unremunerative, or insufficiently so. The most overwhelming of these influences is the foreign supply. It is overwhelming as regards the prospects of our home-growth for these reasons: In quantity it is more than equal to the requirements of this country, even with a short yield of our own crop. And referring especially to wheat, the quality of a large proportion is even superior to our own; but above all, it can be produced and sold in our markets at a price that is ruinous to our growers. I am prepared to admit that at the time free trade in corn first became law, farmers were seized with apprehensions that have not been realised until now, but it is obvious that the causes which exist now, to level the British farmer down to the foreign producer, were undeveloped then, and not only cannot be interrupted now, but in the progress of time they must greatly extend. The telegraph, outstripping all other agencies in maintaining harmony in supply and demand, is seconded by universal steam communication ashore and afloat. The enormous increase both in the number, capacity, and speed, of our own mercantile marine, supported by the presence of the most powerful fleet in the world, is a guarantee of the security and independence of our carrying power. Already in every market in England the farmer finds his corn brought into open competition and actual contact with the foreign production, which is offered on terms that are ruinous to him. It is also certain that the great corn-growing districts of Europe will now rapidly increase their production; their agriculture will improve faster than ours has done, for they are not slow to avail themselves of the best of our stock and implements—they will not only grow more acres, but more per acre. With us in both these respects it is quite the reverse. We have ridden our hobby to a standstill. We cannot increase our produce per acre, the land already holds out signals of distress. If we were to increase our area we should fare no better. With us it is a question of price. Such, then, is the position in which we find ourselves with our standard crop—wheat—which occupies one fourth of our land for eleven months out of the twelve! By taking warning in time we may avert, or at any rate postpone for a time the fate that awaits agriculture in England, especially as regards the growth of wheat. It will be unnecessary, in the face of the facts that follow in this statement, to draw a comparison between the position of the agriculturist now, as a trader in the commodities of his own production, and that of those who introduced the four-course rotation, as one naturally adapted to the wants of the soil and the means of the farmer. It is a common mistake to suppose that the business of agriculture passes the elasticity or is capable of the developments and unlimited combinations that pertain to manufacture or to trade. The farmer's factory is the immovable land; and though the soil is grateful for help and yielding to his skillful management, Nature who presides over all his works will not be forced. She will produce her fruits no quicker for Mr. Mechi than she did for Cain. High farming is not necessarily good farming, the best criterion of good farming is profitable farming. Seasons of great abundance are so universally, or as far as the bountiful hand of providence has been extended. But we do not hear such

exceptional increase attributed to the effect of science or the schemes of go-a-head men. Neither do we hear of farmers taking out patents for discoveries that secure fortunes to individuals. Even Mr. Hallett who has done real wonders with his pedigree corn has fallen short of the patent. But we do hear of speculators and merchants who buy up currants or other stuff, and hoard their goods till they can realise an exorbitant profit; and we do hear of manufacturers who build monster mills and long rows of cottages, in order that in times of prosperity they may go a-head, but in times of difficulty they go on half time, which means I suppose also half pay, or close their doors altogether. All this comes of being gigantic. As I said before neither the farmers nor the land are capable of these expedients. The law does not interfere with us and dictate what hours our hands shall work. There is no strife in our trade between master and man, we don't cut down our labourers if we are losing money. We cannot shut up our shop and tide over a time of difficulty, we must go on to the end; but not being gigantic when we do fall we don't bring half a score more down with us. Notwithstanding all that science has done in agriculture of late, it has not done much that affects the production of grain crops; that is to say taking the three or four grain crops collectively. I do not see that the very extensive application of science to agriculture, both in chemistry and mechanics, has produced, or is producing, results, directly or indirectly, profitable to the producer. Taking the three crops together grown on the four-course shift, we do not grow, on an average, more than three bushels per acre. If we have increased the produce of barley, we have been unable to arrest the failure of the bean crop, or prevent the too frequent recurrence of blight in wheat. Higher rents, higher labour, and increased outgoings on all sides, and perhaps too the increase and prospect of increasing competition, have stimulated farmers to greater exertion; they farm nearer the fences, and with fewer of them, and so by an increased industry, they cover more ground with seed than formerly, but with the exception of draining, and, perhaps drill husbandry, I am not aware of any means they possess now that was not known or adapted formerly, before the time we speak of, by which they can add to the value or diminish the cost of the wheat crop. The steam plough is a tyrant which the soil cannot withstand. The perseverance and ingenuity of our Fowlers and Howards and many others have triumphed over the stubborn soil, and crops by these means may be raised where before it was impossible, particularly root and other green crops; but where the soil offers so much resistance, there is seldom great productiveness, still less return. So far as grain crops are concerned, although I have had great experience in steam cultivation, I am not prepared to say that we grow them any cheaper than we did before their introduction, certainly not on the description of land we are dealing with in this paper, for I understand that land strictly adapted to four-course cultivation is what practical men call turnip and barley land, where roots can be fed off by sheep on the land. Reaping and thrashing machines are no doubt a great boon to the ploughed land farmer, from the greater speed with which he can secure and convert his crops, and a great convenience in many other ways. But I am of opinion that though we save time, and risk, and trouble, we do not save so much money by these means as is generally supposed. The introduction of these machines, necessarily, has had the effect of raising the rate of wages throughout the year, that is, the rate at which we do all our other work—and it should be so—or the labourer could not live. There are none of the products of farming that are not now attacked by foreign competition. We observe also that not only do these imports increase in quality, *wheat especially*, of which some kinds are preferred to our own. Our position with the scanty but well secured crop of 1869, warns us of what our predicament may be after a wet harvest, for it is not probable that a wet season would extend all over Europe, and it is with the globe we have to compete.

This security against the probability of famine, or even high prices, is undoubtedly a great national blessing, working the most good where it is the most needed—amongst the poor—but nobody can deny that the position of the corn-growers of this country is more than serious—it is alarming, because it is not transient. There is no marketable part of the produce of our soil that the foreigner cannot send to this country in quantities and at a price that must eventually stifle our trade. But there are two or three commodities in which at present he falls short in quality, viz., barley, beef, and mutton. English barley, and English beef and mutton, still maintain a preference in the market and a remunerative price. The object attempted in the re-arrangement of the old four-field system has been to suppress those crops that are declining in value, and, if possible, extend those that still yield a profit. But before we proceed to the diagram we must consider the case of the bean crop. The question is whether beans have been a remunerative crop of late years, or whether we go on growing them as favourable in the prescribed rotation to ensure a successful wheat crop. If the foregoing remarks on the prospect of home-grown wheat are correct the sacrifice will hardly pay. I do not believe, however, that beans have paid for growing for some years past on land adapted for feeding sheep. They are not grown of necessity, nor for feeding our horses and cattle, for foreign feeding stuffs are cheaper and better adapted to the purpose. Indian corn, to a great extent, supplants the use of beans; moreover, sufficient oats may be grown on a portion of the wheat stubble to supply horse corn, and oilcake is better suited to our stock, and as a fertiliser. I do not suppose anybody will make a stand for peas. In addition to the question of price, the frequent blight in both peas and beans suggests the prudence of growing them less frequently, even if it is no way connected with the cause of blight. The manner in which blight attacks these crops indicates an unhealthy condition of the plant, which, if it does not produce the blight, immediately precedes and induces its attack. The wheat and beans in 1869 grown on the stouter soils, those naturally adapted to those crops, did not succumb to the blight as those did on the sharper soils, and it is remarkable that bean-land wheat suffered far the most. My own conviction is that we have grown beans long enough, and that we should grow wheat less frequently upon the description of soil called turnip and barley land. I do not bring this series forward as naturally better than the original one, but as one forced upon us now by circumstances which did not exist in 1793, circumstances over which we have no control, and which render that system unprofitable. At the same time, I believe I am right in saying that the two crops which I propose to suppress are those which draw most severely on the backbone of the soil, and those which will be extended, or those which by nature feed to a much greater degree on those elements which are above the earth. Referring to the diagram (which was barley first, then roots and seed, barley and wheat, roots, barley, seed and roots, wheat and barley, roots), it will be seen that I have cut out the bean and pea crop altogether, and kohl-rabi is prominent *vice* beans and peas. The next step is to substitute barley for half the wheat course, making such an interchange with the kohl-rabi and seeds as shall cause the seeds to be repeated once in eight years on the same land; and mark, the wheat, always following on the clover-ley, will share the same advantage, and be planted under conditions that experience has proved most suited to its success. I have repeated the course over eight years in order that the interchange for the benefit of the wheat and seeds might be more apparent. It will be asked, Why not lay down part of the land? and I am not sure that ultimately this would not prove to have been the wisest course, but, I will also ask, Who is to do it? If it were done without compensation from some quarter we should sacrifice this generation for the next. Profitable pastures upon old worn-out land are not made in a year or in twenty years—scarcely in a lifetime, and no doubt the best land would be reserved under cultivation. There is also the objection that this would be a landlords' question, and in many cases would entail a considerable outlay upon him. The alteration I propose is one no doubt on which the landlord must be consulted, but it does not really affect him, except beneficially, by the improvement of the land. It is higher farming, and it is cleaner farming than the other system. The objection that will be raised to the proposed rotation, is that barley and roots are repeated on one-eighth of the occupation—

twice in three years. As a matter of fact, founded on experience, barley will bear repeating more frequently than any other cereal, and considering the improved condition of the soil resulting from the substitution of the fed off root crop in the place of an exhausting bean crop, I have no reason to doubt its success. Moreover, as that portion of the land upon which the repetition occurs is that portion of the barley course which will have the young seeds under it, a less bulky crop of straw will not be disadvantageous. I look for a pecuniary gain in the mere substitution of the barley for the one-eighth of wheat. For I hold it is more probable that we should grow 6 qrs. of barley after the roots fed off with cake and corn than 4 qrs. of wheat after a failing and foul bean crop, and they are as sure to be foul, as they are failing! Putting the barley at 4s. 6d. per bush, and wheat at 6s., there would be a balance in favour of the barley of 24s. per acre. In addition to the pecuniary advantages which may thus be fairly expected, there are practical gains materially affecting the rest of the system. On the old system the barley stubble laid dead for five months, with the exception of the once ploughing for the beans. On the new the same land would receive seven months fallow, the most important of which is obvious, namely, the spring sown barley occupying the eighth, which on the original plan was sown with wheat, affords ample time for the consumption of the roots which have superseded the beans. The diminution of the time occupied in wheat sowing furthers the progress of other important work at a time of great pressure. Considering the time that wheat occupies the ground, nearly three times as long as barley, the land must gain by the change; for although wheat is not drawing more than seven months out of the eleven, still it occupies the ground and harbours rubbish. The operations for the barley are less costly in every way than for the wheat. With regard to the second and most important change proposed, namely, the substitution of roots for the beans, a considerable advantage presents itself in favour of the roots. Of course, no fixed amount of profit can be determined upon, it must depend on the bulk of the root crop; the cost of the sheep at buying in, and the value of mutton and wool at selling out. Last year my sheep paid me scarcely £2 per acre net profit, this year more than £11. The range is large, but anyhow promises results under unfavourable circumstances to the best corn crop, and when the crop and the price are both good runs up an amount per acre more than equal to all the corn crops put together. As to the repetition of the roots alluded to before, I do not propose to increase the breadth of turnips, I would rather allow mangolds to encroach somewhat on the turnips, and let kohl-rabi occupy the vacant place; it is almost proof against the fly, for they will rally and make good plants if they are eaten to the ground, they will stand out all winters, or store equally well, and they are the best sheep-feeders I know, the bulb being clear of the ground lessening the expense of preparing the food. The preparation of an additional eighth of the farm for roots would, no doubt, entail more operations than the simple ploughing for beans. To set against this there would not be the work and delay of harvesting the bean crop, nor the expense of cleaning the land for wheat. Without going over the ground again, I think it is shown that, first, the substitution of the barley for the wheat is likely, apart from any question of expense, to leave a balance in favour of the barley; that it entails a saving of labour and time at a busy period of the year, and is of great practical advantage in facilitating the working of the rest of the system. And secondly, that the removal of the bean crop is the removal of a loss; that the substitution of the root crop is a gain of considerable importance, without offering any practical difficulties. In weighing the truth of the position in which I have assumed the corn-grower of this country now finds himself, as well as the merits of this change of system as a remedy, it is important to bear in mind the description of land for which it is intended, viz., such land as is known by practical men as turnip and barley land, well adapted for feeding off with sheep, and consequently not strictly either wheat or bean land. How far such a system may be extended to other soils I must leave to the discretion of those who occupy those soils. There are men now-a-days who will go into the field with their team, and by a Macadamizing process of smashing up and crushing down they will undertake to make the soil suit the system, and they are the valued patrons of our great implement makers, "agricultural engineers." But cramped as our resources are, and considering the heavy imposts laid upon us,

I would rather recommend that we should avail ourselves of the assistance of the elements than challenge them to a trial of strength, and, guided by the evidence of past experience, endeavour to adapt our system to the soil of the times. A period of great agricultural depression occurred in 1819-1820, and extended over fourteen years, namely, until 1833. It will not be inapplicable to the subject to review the state of agriculture which preceded that crisis, and ascertain the causes which led to it. Up to a late period in the eighteenth century agriculture had made little progress, and, judging by the books that were written in those times, there is no doubt they knew very little more and did very little more than was done in the time of Virgil. For instance, I take one which styles itself in 1708, "The whole Art of Husbandry," where the writer backs his opinion as to the best way of managing fellows by quoting Virgil. He says: "Where land is but indifferent, and manure not to be got, following every other year is found a great improvement, and is a very ancient piece of husbandry, as may be seen in Pindar, Zenophon, and Virgil, who advises to

"Let thy land rest, alternately untill'd,
[And to worn-out grounds an annual cessation yield.]"

And he goes on to say: "In Staffordshire they often give their lands a winter fallowing, besides the three summer fallowings, and lay their land up in ridges when they sow barley—which seems the way of the ancients by Virgil—

"The greedy villager likes best the mould
Which twice hath felt the sun and once the cold."

A little further on the same writer, in giving some excellent advice on the advantage of change of seed, says: "Get your seed from a worse soil than your own if you can; if not, 'tis better to have it from good land than not to have change; and this," he says, "the ancients were sensible of, as appears by Virgil,

"Your changed seed delights the fragrant plains,
And ground left fallow grants no little gains."

In speaking of different qualities of land, he says: "All sorts of land that moulders to dust with frost, warm land, black mould, yellow clays, if not too spewey and wet, and that turns black after rain, are good for corn, which appeareth from what old Tusser well observes:

"The soil, the seed, the sheaf, and the purse,
The lighter in substance, for profit the worse."

They had no regular succession of crops for any soil; but the same writer observes: "Some after a fallow sow their land with wheat, the next year they follow again and sow with barley; the next year with peas; then fallow again, and sow with wheat." This is a good plan where the land is not in heart. The profound wisdom of such a course induces him for once to depart from quoting the ancients. He gives no account of the average crops of those times, but in one place he remarks: "On a mighty prolific barley grown in Oxfordshire, called Rathripe or Pasney barley, which brought 2-3 qrs. to the acre, and some black oats 4-5 qrs." Such was the management and such the results, until the time when Mr. Coke, at quite the latter part of the 18th century, took up the cause of agriculture, and almost immediately a course of rapid improvement commenced; and so great was the impulse which his intelligent and energetic example gave to the work, that persons of wealth and education were induced to invest large sums in pursuit. I shall now quote some parts from a very different work: the report of Norfolk agriculture by Mr. Bacon in 1844. And I select that county not only as the birth-place of the four-course system, but because it affords us in its past history a terrible example of the effects of a high rate of local taxation and other outgoings upon short crops and reduced prices, upon soils where high cultivation is absolutely necessary to increased production. But to return again to Mr. Coke's time, with the rapid rise in the prices of agricultural produce, came the desire for large occupations, and vast tracts of waste lands, in which Norfolk then abounded, were inclosed. The land was cultivated at an enormous expense, but for this, the price of agricultural produce amply compensated. Mr. Coke introduced the turnip as a field crop, which was to be the basis of the Norfolk system. Bone manure and rape-cake began generally to be applied. The discovery of clay of the best kind just beneath the surface, gave a new impetus to further improvement; nor was the mechanic idle, drills and horse hoes were invented, and improved every year. All

circumstances manifested the share which energetic enterprising intellects were taking in agriculture. The enormous increase in the production of grain in this county had not kept pace with the consumption; prices continued to rise, and farming became a brilliant success. Indeed, such was the excitement produced by the prodigious profits yielded by improvements, which had all the appearance of permanence, that when the war ceased and prices began to fall, neither owners nor occupiers could be induced to believe that the change was not temporary. However, the crisis was at hand; it was stayed off for a time, first by the protective duty of 80s. per qr., and afterwards by the high prices which followed on the wet harvest of 1816. These high prices, however, in their turn caused an enormous influx of foreign corn; a further fall in prices followed, succeeded by fourteen years of increasing pressure. Failure followed upon failure, the provincial newspapers were crowded with notices of auctions. It was then, as now, a question of price, except that then the farmers failed in spite of the teeming soil, refreshed by the recent introduction of root and other green crops, and the most liberal treatment, in spite of hundreds of acres, new to corn altogether, and in spite of a price for wheat, which exceeded the present price, during all the fourteen disastrous years by an average of 17s. 11d. per quarter, notwithstanding the fall, or putting the average yield at 5½ quarters per acre by more than £3 per acre. Oats also were making an average of 4s. 2d. per quarter more than at present, which, on a yield of six quarters, would amount to 25s. per acre. Barley is making about 2s. per quarter more now than then. Pulse also is making rather more money, but, putting all the crops together, the excess of price at that time over the present would be 9s. per acre all round. It was, however, the price of wheat that mainly ruled the success or failure of those men. The high price that had prevailed had increased the desire to grow more wheat and less of other grain, which naturally in its turn rose in price. But it was the price of wheat that ruled the farmer's prospects. Cattle corn and turnips had been squandered to produce it. The farmer was driving a one-ended business, and directly the price gave way he was without resource. The collapse of so much prosperity, founded chiefly on the industry of the people and the intelligent employment of capital, points plainly at the crushing effects of a high rate of local taxation and other outgoing upon short crops and reduced prices, especially on land where high cultivation is necessary. Rents, rates, tithes, taxes, and labour had risen between 1790 and 1820, on an average of 240 per cent. The present position and future prospects of farmers are far more alarming and inextricable than those of their predecessors in the early part of the century. For instance, there is no probability, come what will, that the legislature will ever relieve this branch of industry by restoring prohibitory duties. There is evidence of depreciation in the staple value of the land itself, or an unfavourable change in the climate, in the enormous increase of our purchased food and fertilizers in order to maintain an average reproduction, and in the increase of blight, a subject never mentioned in the report of 1844. The *bona fide* farmer is greatly disadvantaged in these days by the influx of capitalists from other professions. Many of these individuals, coming quite prepared, and content to lose money in the enjoyments of country life after years of toil in our large cities, create a ruinous competition. There is another point that adds to the embarrassment of the times, and that is the present social position of the farmers of these days. Education has become necessary, and with it has come refinement. The farmer's household is no longer supported in the style of 1800. He cannot divide his income in the way set forth by Tusser's quaint lines:

1. One part cast forth for rent due out of hand.
2. One other part for seed to sow the land.
3. Another part leave parson for his tithes.
4. Another part for harvest sickle and scythe.
5. One part for ploughwright, cartwright, knacker, and smith.
6. One part to uphold the teams that draw these with.
7. Another part for servants' and workmen's wages lay.
8. One part for ill belly day by day.
9. One part the wife for needful things doth crave.
10. Thyself, and thy children, the last part would have.

We have now recounted how farmers, primed as they were with the gains and confidence acquired in many years of prosperity,

and living under circumstances far more propitious than the present, failed and failed utterly—with wheat at an average of £3 per qr. What must be the position and the prospect of the present occupier of the same land where the produce is scarcely maintained by an outlay that was unheard of fifty years ago—with the quarter of wheat at 40s. ? At the time Mr. Coke introduced the four-course shift, grain was wanted, and especially wheat. Corn was his aim; the green crops subserved the purpose; times have changed. What is wanted now is beef and mutton of the best quality, and we must only grow so much corn as will not stand in the way of our producing the utmost quantity of meat, and we must endeavour to grow it under circumstances that will reduce the cost and improve the quality. This is the object I have attempted to accomplish in the alterations I have proposed in our prevailing course of cropping. I have endeavoured throughout to deal with the subject in a practical manner. It is no speculative scheme, but founded in every step upon the sure ground of experience. My projects are not offered as a cure for the inevitable fate that awaits this branch of British agriculture, but I believe, that without deranging in any degree the present enclosures or involving any outlay beyond the purchase of stock, it will for a time at any rate increase the produce of the land without increasing the outlay. If it should fail of giving general satisfaction, I hope it will at least furnish matter for a useful discussion.

In reply to the Chairman, Mr. HUGHES said his arguments applied to lands which were capable of bearing sheep.

Mr. BLUNDELL would keep close to the subject on the card for discussion, "The Four-course System, its Evils and Remedies." He took it that the four-course system had its evils, more or less, upon certain soils. He was very much inclined to doubt whether any improvement could be made in the four-course system on light lands, unless they were very highly farmed, and at a very large outlay. They must be aware that the four-course system must be farmed well, and with judgment, if required upon light-land farms. He must say that when they had the rental above 25s. per acre, if there was to be any margin of profit the four-course system must cease. When they had a high amount of rent to pay, he was quite confident they would require more profit than the four-course system would yield to them. Generally speaking, with regard to land which was rented from 25s. up to 40s. per acre, it was soils which were nearly always highly farmed; and where they had the four-course system and paid a high rent, they must pay for it out of their pockets, instead of out of the land. When a man paid rent to the extent of 30s. or 40s., and where the outlay was liberal, and he was not bound to a certain course by his lease, he could then take sufficient out of his land to pay his rent. He maintained that the four-course system would enable no man to pay a high rent. He knew of many farms in that county where the tenant was tied to the four-course system. Men could not live on them, because they could not pay the rent without taking it out of capital. No man could live under it, and the four-course system was one of those blind systems of letting which was adopted by a man who could not see an inch before his nose, and he did not take the trouble to inquire what was the effect of it. He would not take a farm under such a system, with leases copied from old documents, and where they know nothing whatever about the land. The fact was, there was now such a competition for farms that a landlord might do almost as he liked. They dictated to the tenants what should be done, and what not; and it was impossible that under such restrictions they could properly farm the land with a profit. This subject was taken up by the Botley Farmers' Club sixteen years ago, which was a long time, and he thought it might be very properly renewed again, and since that time changes had taken place which were diametrically opposed to the four-course system. High farming, with liberty of action and good leases, was all that was required for the good of the country and the landlord and tenant themselves, and without this farming must be a dead letter. If this was done he was sure tenants would be quite prepared to take it at a good rent, and they would then be enabled to live by it, but landlords who objected to give tenants liberty of action only did an injustice to themselves, as the tenants would take all the advantage they could; they would get what they could out of the land, then leave it, and in many cases pay no rent whatever. Tenants without capital took farms with the intention of not paying any rent,

and thus the landlords lost what they would receive if they gave the tenant liberty of action and dealt with him in a liberal spirit. He hoped the discussion that day would tend to enlighten some people on the subject, and that it would bear good fruit. They had been too apt to forget the position of the agriculturist. With regard to the four-course system he farmed his own land for thirty-six years, and he could assure them that the four-course system would have been no use to him. If a man offered such a farm to him he would tell him he would not have it, as it would be of no use to him. By adopting the mixed system—a mixed rotation—by putting plenty of manure into the ground, and by farming properly and with good clauses in the lease, a man might then be enabled to live. He saw before him two of his tenants, one a successor to him, and Mr. Withers, of Dursley, and he would ask them whether they could farm under the four-course system without paying for it out of capital. He would ask them how it was that they were enabled to make their farms pay, and whether they would be satisfied with a lease encumbered with clauses which were copied from old parchments. The system which might be said to be successful on loamy and vale lands was to take the roots as a fallow crop and then Lent corn, for he could not ask them to sow barley on strong soil. The third course would be clover. Now came the question, supposing the four-course system were adopted, if their clover should fail they must go to the landlord and ask him to be allowed to go out of the course. The fourth course he should have would be wheat, the fifth pulse, and the sixth wheat. Thus they would get four sale crops in six years, and these were the systems required for the loamy land of that district. The five-course system would be the best for light lands. He should say roots, a green crop, third wheat, and fourth barley. He said wheat third, because after land had been trodden by sheep they would not have a good quality barley if it was sown next after they had been on the land. After barley they could have more clover again. There was another rotation suited to high farming upon chalk hills, and he could go on to tell them of his further experience with regard to the matter, but he would not further detain them, knowing that there were others anxious to take part in the discussion.

Mr. JAMES WITHERS ought to know something about the four-course system of farming. At all events, he could say that he knew something more of it than he had a desire to know, and could not say much in its favour. He was at present pretty much bound to that system on one of the farms which he occupied, but on the other, which he rented of Mr. Blundell, he was allowed a little scope to improve on that system. But he might also tell them that he was not so privileged without being compelled to pay dearly for it in the shape of extra rent. About twenty years ago he took a farm in that neighbourhood, and was strictly bound to the four-course system, which meant a fourth-part with wheat a fourth with roots, a fourth part with barley or oats, and a fourth part with clover. The farm having been cropped after this system for some years previous became clover sick, and he could not grow clover. Consequently there was one-fourth of the farm rendered almost useless. By consent of his landlord (Mr. Blundell) he changed the system, and put only one-eighth of the farm to clover, or one-half of a fourth, and the other half with beans and peas, and thus, by reversing, the land was cropped with clover only once in eight years. By this system he could produce more clover on an eighth of the farm than he had previously done on a fourth, while he had an eighth of the farm cropped with beans and peas, and thus, by breaking out of the track of the four-course system, he found it a benefit in extent in money value to one-fourth the rent of the farm, while it formed an excellent preparation for a wheat crop. The strong retentive clay soils, again, even when they were drained, were very unfit to carry out the four-course system, not because they would not grow turnips, but because they were unfit for winter feeding with sheep. The land being of that character the food afforded but little good to the stock, the sheep doing great injury to the land by rendering it unfit for a crop the next year, and in this way the four-course system proved an injury to the tenant, and no real benefit to the landlord. Such land was best adapted to the growth of wheat and beans; sometimes clover, tares, and rape for early feeding might be grown, but sheep should not be on such land after the month of September. There was another description of land in this part of the county where the four-course system

could not be carried out effectually or profitably, viz., some of the lighter or mixed soils which were naturally very wet and needed draining. Such would be good stock and corn land if drained, and he thought that every owner should drain such before binding a tenant to a system he could not possibly carry into effect for the want of draining. There were, too, some seasons which would, in various ways, interfere with the four-course cropping in that neighbourhood, or, in fact, any other regular system. A practical farmer's hands should never be tied to a system. His system should be progress—to do the best he could for himself, without an injury, to his landlord; to produce all he could, to employ all he could by productive improvement, and to give it up with both the farm and himself somewhat the better for having been on it. If leases were granted with two years' protection to the landlord, very little more was needed. He had heard the observations of Mr. Hughes with a great deal of pleasure, but they would not apply in his case. With regard to wheat, it was the most valuable crop he could grow, and he could not afford to displace it for any other. If he took the average of the past seven or eight years, he thought he might fairly say that his wheat was worth from £10 to £11 per acre, while his barley was worth but £7 10s. or £8 per acre. His beans had been a failure during the past two years, but he had had a very profitable crop of peas. He feared they would fail this year, as the frost or something seemed to have affected them. His turnips were worth about £3 10s. or £4. It would not do for him to throw overboard the wheat and substitute anything else, for he must confess that it was wheat that made it pay. With regard to a fallow, he did not think that was required now, as they could clean the ground much easier now than formerly. They had got into the system of autumn tillage, and they were thus enabled to dispense with the fallow. The market-gardeners who had land around there never had a fallow, as it was dug with the spade, and never required it.

Mr. DEANE had a liberal landlord, and was not bound down by clauses in a lease. He had grown both clover and sainfoin with considerable advantage by having it once in eight years on a part of the farm, and with regard to the wheat crop being the most valuable, there was no question about it. If they did not plant wheat in that part of the country they could get nothing with which to pay the rent. He did not think the four-course system could be adopted there, and he was sure if it was they should never be able to pay their rent. He was sure they must be much obliged to Mr. Hughes for coming from such a distance to meet them.

Mr. HUGHES said that his remarks were only intended to apply to land which was suited for feeding off turnips with sheep—tarnip and barley land.

Mr. JAMES WITHERS quite understood that. As he had already stated his wheat crop he estimated at £11 per acre, and his turnip crop only £4. It might be said "Why do you grow turnips?" It was because they made the manure, the manure grew corn, and it was the corn that produced the capital. If any one could show him a method of producing manure cheaper, then he would not keep another sheep, as the corn paid the best.

Mr. SPOONER said there were but few ideas in the paper that were new to them, but it induced them to reflect and to think over it in a manner which they would not otherwise do. One difficulty with regard to the subject was that in this county they had scarcely any land that was adapted to barley and roots which was also adapted for pulse and beans. In this county barley and roots did well on the chalk formation; but it was ill-adapted for beans. The bean crop was now attended with much more uncertainty than formerly. He could remember seeing twenty sacks to the acre. They now seldom saw more than ten, and often much less. He could not altogether agree with Mr. Hughes on the subject, for he could not think it would be for the welfare of the tenant to give up the wheat crop. When the time came for paying the rent the farmer took mental stock, as it were, of the stack-yard, in order to see whether his prospects had increased during the year. He might say that in passing along by a farmyard at a railway pace, and if they took a broad view over it and saw it was full of wheat stacks, they would at once come to the conclusion that the farmer had the means of paying his rent and going on for another year. Barley was not so very successful a crop there, and the question was whether

it would be advisable to substitute that for wheat while it was at 40s. to 50s. per quarter. That was the thing to consider. With regard to wheat it was only in consequence of the constant consumption and the unlimited importations that the price was kept down. What was the price at the present moment? Not a very bad one (No, no). They had brought more land under cultivation; but still they had become dependent upon the foreign supply to a great extent. Some great improvements had been made in agriculture within the last eight or ten years upon the strong clay lands by means of steam cultivation, and thus fresh soil had been brought up and had been made to produce food in the shape of wheat. They had heard what had been done by Mr. Smith, of Woolston, with the steam cultivator on such lands. He did not think it would be found to pay if they gave up a valuable crop like wheat. At the same time the paper contained many hints, which showed them it was beneficial to deviate from the four-course system, and that a great deal of the success in farming depended upon the agreement made between landlord and tenant. He thought that tenants should be dealt with liberally and fairly, so that they might be induced to farm well, for he believed he need adduce no argument to convince them that bad farming was neither profitable to the landlord or the tenant, and it was to the interest of both that land should be farmed well to the last. Some cases had come under his notice where there were most abominable restrictions, which were not always due to the owners themselves, but originated with musty clauses put into leases which were drawn in lawyer's offices. He thought that, with regard to land, that the least they had to do with lawyers the better ("Or anything else.") Very likely that was true. He hoped they would not let their Chairman escape. They were told that he had found out the way to farm advantageously, and if his modesty would permit he hoped he would tell them the system he adopted.

The CHAIRMAN said the discussion had not only led to the land, but the drawing of the leases had also come up, and what the soil of the country was capable of producing. There were some farms on which the plan proposed could be never carried out. He did not think that leases should contain a provision that a man should be bound to a certain course. They all knew very well that the four-course system prevented them from making use of their land to the best advantage, but with regard to Mr. Hughes' remarks about the bean crop, on a farm he occupied he had found that growing beans were profitable. The beans had been followed by wheat, then perhaps he had had oats, and then, perhaps, beans again. So long as he could get a good crop of corn he did not look after whether there was a possibility of its paying. The beans were very beneficial after a corn crop, as they did not want a fallow, as could be plainly seen on his farm both before and after harvest. He believed with Mr. Blandell that when they had a tenant they should deal liberally with him, as he could not get on without spending money. Therefore he thought that in these times every liberality should be shown towards a tenant with regard to clauses in his lease. He agreed with what Mr. WITHERS had said about wheat, and he did not think they could allow anything else to be substituted for it. They could get wheat from all over the world, but the whole consumed in the country did not come from foreign parts. Mr. Caird had estimated that more than one-third of what was consumed came from abroad, and that out of twenty-two million quarters about nine millions were imported into this country. He was fully convinced that if they required extra supplies the prices would go up. He was afraid they could not find any substitute for the wheat crop. It was the main crop of the country, which fed the people, and they must endeavour to grow as much wheat as they could. The production of roots from the soil was very advantageous for the making of the manure, but with regard to the advantage of making beef and mutton he could never see much profit from it. The only benefit the animals were to him was in the manure. If they did without them they must depend upon artificial manures to keep the land in a good state, and until they could altogether rely on them they could not afford to dispense with their sheep and beasts. Then with regard to what Mr. Spooner had said about his farming, all he could say was that he endeavoured to farm as well as he could, and he was ready to admit that he got a little profit out of it, but he thought he should get less if he did not farm as he did.

Mr. SUTTON said there was no doubt that steam cultivation

had very much improved the growing of wheat throughout the whole of England. He had been in conversation with many agriculturists, and nearly every man with whom he had come in contact had expressed a desire to grow more wheat, to till the ground deeper, and thus get a better crop. That seemed to be the general wish. He did not pretend to discuss the evils or benefits of the four-course system, as he had not had much experience in such matters, but he thought it right to tell them there was a general desire to grow more wheat.

Mr. BALDWIN, speaking as a maltster, thought, for his own part, that in consequence of the great consumption of sugar there would be a decrease in the price of barley next year. Brewers used sugar, and he did not think they would find their barley would reach the high prices again they had. The duty that was put on sugar last winter had not materially reduced the consumption, and he had almost thought of taking out a licence to sell it himself. They got, in some seasons, an extraordinary good quality barley from the German States, and they got some of the best malt from Saal barley. In 1859 and 1860 he was obliged to go there and purchase barley, which was as good as any he had seen in his life; and, therefore, he thought they should use their judgment before they attempted to make any increase in the growth of barley. He thought if the Government did not do something in the way of altering the malt-tax that sugar would be on the increase year after year, while the demand for barley would decrease.

Mr. HUGHES, in reply, said the object he had in view was to see if they could not arrive at a prescribed system of cultivation which would be for the benefit of the country at large

rather than any particular district. He himself had great reverence for the old golden wheat, and he was as unwilling to give it up as any gentleman present, but the question was whether they could grow it at remunerative prices. The chairman had said that when there was a scarcity in the crop the price would rise, but he thought that time had gone by. Even in the remarkable year of 1859 the price did not rise; and while they were getting a remunerative price for their wheat now, he would remind them that England during the last five months had been turned into an exporting country. They had been exporting wheat abroad, and therefore the prices could not be depended upon. There was no doubt that some gentlemen could grow wheat at a good profit, but there were not many in that happy position. One gentleman in that room had thrown a dark veil over the prospects of the barley growers in consequence of the introduction of sugar, and if the prospects of the wheat and the barley growers were depreciating they were in a still more unfavourable position, and therefore it became more important than ever that they should turn their attention to growing green crops for the production of beef and mutton. Sheep were more profitable than a corn crop, and with bread now so cheap, and likely to become cheaper, there would be an increase in the consumption of animal food. Farmers would be blind if they did not turn their attention to this subject, and he thought they would agree with him that if they had the wool of the sheeps' backs and then got 8lb. per lb. for them there were very few who would come to the conclusion that they could not make it pay to keep sheep.

The proceedings terminated with the customary votes of thanks.

LAVENHAM FARMERS' CLUB.

FARMERS AND FARMING.

At the last meeting of this Club, Mr. Wm. Biddell in the chair,

Mr. B. L. EVERETT said he thought that they as farmers might congratulate themselves on this aspect of the subject, that they followed an occupation the most ancient, the most necessary, and the most wide-spread of any that was followed in this world. He should speak first of farmers, and then of farming generally; and in speaking of farmers, the first subject for observation which presented itself was the great variety of the men that followed that occupation. He supposed that there was no other occupation followed by men which comprised within itself a larger variety of different grades of men. There had been amongst the farming class the very highest of the land. It was said that George III. found more pleasure in his farm than he did in his kingdom. The late Prince Consort was also fond of agriculture, and was most successful in its pursuit. Then there were very few of the great noblemen and landowners of this country who were not more or less practical agriculturists, and there was one who was the foremost in the agricultural world—he referred to the first Earl of Leicester. From the great noblemen downwards, among those who owned large portions of land, there were few who were not more or less connected with agriculture. Then there was the class of gentlemen agriculturists, so well represented by the gentleman on his right (the Chairman). There were numbers of gentlemen of ample means who followed the calling, not as a business, to obtain a livelihood, but as a calling in which they found a good deal of pleasure, and amongst the number was some of the most intelligent and cultivated, and some of the pleasantest gentlemen to be met with in this county. Then there was a large class of men—unhappily a class fast diminishing—the yeomanry, or men who farmed their own little plots of land. It was a matter of deep regret to see that class diminishing as it was, for there was no more independent position amongst men than to farm one's own land. The time was when men of that class were the great stay of the country, and in some of the critical periods of our history they had taken a most distinguished part. It seemed to him (Mr. Everett) that legislation could prevent this state of things, and it was one of the results of the enormous wealth amongst us that we saw the possession of the land coming into fewer

hands; and, in consequence, the class to which he was now referring was rapidly diminishing. Again, there was also a large class of men who were called apron-string farmers, who were to be found in the strongest numbers around the large towns, men engaged in trades of various kinds, but who, from a love of agriculture, tried their hands at farming. Some of these gentlemen often made ridiculous mistakes in the first instance, and if no injury was done to those who committed them, a good deal of pleasantry was caused amongst those who witnessed them. Amongst this class of men, however, after a certain amount of experience, were to be found some of the best and sharpest farmers; men of education; men who turned things to the best account, and men who often got ahead of their slow-paced neighbours. Next came the scientific farmers—not a numerous class—but an important and noisy class, represented in the first rank by Mr. Mechi. These gentlemen benefited agriculture, but he (Mr. Everett) did not think that they benefited agriculturists. They introduced new methods, and went a-head in many ways, not profitable perhaps to follow, but which had in them the germs which, in time, developed into something profitable. At the same time one often read with regret the statistics such gentlemen issued, being assured that they were not corroborated by fact, and they had a misleading and injurious influence on the minds of those who read them. He now came to the largest class of all, viz., those who followed farming as a business to live by; and here there was an infinite variety, men of considerable intelligence and information, if not of the most polished manners, men who were of the old-fashioned sort, who possessed no particular knowledge of anything beyond the land on which they lived, and on which their thoughts were bound up, men whose reading was confined to their Bible and newspaper, a most worthy class of men as a whole; but there were amongst the class of business farmers, sharp practical men, acute well-read men, and many who had been left somewhat behind in the progress of modern society. Last of all there was the working farmer, an individual certainly devotedly to be pitied; men who in reality earned less than the men they employed; men who employed more hours than the labourer, whose earnings were not, as in the case of the working farmer, affected by the seasons, and

altogether, the position of this class of farmer was not to be envied. Leaving this branch of the subject, let them look at farmers as employers. This was a subject on which we had heard a great deal. It was often supposed that farmers were bad masters, and they had a bad name in the labour market. The position of the agricultural labourer, and the treatment meted out to him, was a very favourite subject for many to discard upon. Any one looking considerably and practically at this matter, would see that, after all, the condition of the labouring man in the villages and working on farms would contrast favourably with the unskilled labourer working in towns. Of the two the balance of comfort, if he was a prudent man, rested with the agricultural labourer, his employment being regular, and he had advantages and privileges which his brother in the town did not possess. He (Mr. Everett) was persuaded, notwithstanding all that their town friends might say, that the unskilled labourer in the town was not so well off as the unskilled labourer working on the land. Labouring men might be much better off than they were but through faults of their own management. The waste of that class of men—though their wages would not allow of much waste—was very noticeable; those who employed their daughters knew the tendency there was to extravagance in their habits. And then there was the reckless way in which the labouring class began in their married life; so much so that if those of the middle-class followed their example, they would be reduced to their level. He contended that it was in the power of an agricultural labourer, if he gave his attention to it, to lay by a good sum by the time he was twenty-three or twenty-four years of age to enable him to furnish a cottage, take a wife, and begin life with a few pounds in hand, with the prospect, with care and frugality, of a tolerably comfortable life. The more usual case with such men during the time they had money was to spend it with such men as the host of the house in which the members of this club were assembled this evening, and when they married they had scarcely anything to put into the house, and sometimes within a few weeks of their marriage the increase of their family commenced, and so they struggled on in a miserable existence, with regard to which they had themselves to thank more than anybody else. An important point in the subject under discussion this evening was that of wages. How much were the farmers to blame for not paying more? If we looked at the position of the farmer we could see that he had no power in this matter. There were two things they could not control, one was the rent of the land, and the other was the price of the articles produced on the land, and the farmer was bound in chains, as it were, between the two. He could not effect the price of what he sold, and he could not effect the price that was to be paid for his land, and, in order to leave a margin, it was not possible for him to pay a higher rate of wages than he did pay. He (Mr. Everett) spoke generally, and upon the average. Comparing the earnings of the farmer himself (apart from the money he put into the business) with the earnings of the men, the men received more money out of the business than did the master. He had thought, when he had read the observations made by Canon Girdlestone and other high personages who had spoken upon this subject, that it was all very well for those who were not farmers, and had no interest in it, to speak of practical agriculture; but if Canon Girdlestone, the numerous writers in the public papers, and those who said such hard things themselves would take farms, and carry out in practice the payment of the higher scale of wages and continue it, the farmers would be inclined to listen to what they had to say. Farmers had been much abused in this respect, and most unjustly; and looking at the short hours that the men had to work in the dark days, looking at the wet days when farmers had to find employment which was not remunerative, the occasionally long frosts and idle times of the year when farmers made a strong effort to keep on those men who were considered to be in regular service, though they knew they were not getting money's worth, the conduct of the farmer, taking all these matters into consideration, was, he maintained, to be commended, rather than condemned, as the employer of labour. There was not a more thoughtful and considerate employer of labour than the farmer; and though the wages might seem small as compared with the wages paid by the commercial community, yet, on comparing what the labourer received with what the master received, it would be found that the former paid their men much nearer what he

actually received than did other employers. He desired next to speak of farmers as public men. There were no men in this country that were less public men than farmers, or that took less interest in public affairs. The gentlemen present this evening knew very well how difficult it was on any occasion, and with regard to any question, to convene a meeting of farmers in large numbers. There was a good deal of reason in it. It was, of course, very different to them to what it was with townspeople, who had lighted streets, and were accustomed to late hours, and who could meet without any inconvenience to themselves. The whole tenor of a farmer's life was to make him a quiet home-loving bird, whom it was difficult to drag out of his cage when once returned to it from his day's labour. He thought that in this matter the farmers had been much to blame. It became every man in a land like England to take some part in public affairs. Who was it that governed this country? It was the people, and no Englishman could shirk fairly and honourably the responsibility that belonged to him as a citizen and Englishman to bear his part in public affairs. As to political questions which affected the interest of the farmers, how slow and inactive the farmers had been. Take the question of the Malt-tax. Did any one imagine that if a tax like that were put upon coal or iron, or any of those productions which engaged the industry of their friends in the North of England, that they would for these 70 years or more have submitted to such a monstrous and shameful tax as that? Not only did the farmers submit to it, but actually many of the producers believed that monstrous impost upon malt was a benefit rather than injury. Would it be possible to persuade the owner of a coal or iron mine that such a duty as that would be a benefit to him? And yet there were farmers so ignorant and inattentive to public affairs that they could be crammed with such stuff as that. Considering the enormity of that tax, and the length of time they had submitted to it, it showed how little spirit there was amongst them, that they had not made a long and vigorous effort to remove the burden. Let them determine to persevere in the matter, and lose no opportunity of obtaining a remission of the tax. This want of public spirit, however, seemed to be in some degree diminishing; and the great progress that had been seen to take place in reference to the formation of Chambers of Agriculture, was, he took it, a good augury for the future. It might be owing to the spread of education or the increase in the number of newspapers, these things tending to bring farmers more on a level intellectually, and in activity with those in towns, who enjoyed many privileges before they reached the farmer. With this increase of public spirit he had no doubt but that they would before very long see the peculiar burdens of the farmers removed. He did not stand there to advise any man to go in for public life. There were two extremes to be avoided. That man was not wise who attended to the business of the public and neglected his own. That man was also to blame who had a supine indifference to everything going on around him, and who refused to lend his influence to assist in the various movements in which agriculturists were deeply interested. In the present day it was a very easy matter to lend a helping hand in the different public questions, viz., by means of a small subscription in support of those organizations representing the voice of the farmers, and in order to strengthen the hands of those who went to the front in these matters. In approaching the last aspect of the subject, farmers as politicians, he felt that he was treading on delicate ground, but when the persons in town were asked their opinions as to farmers' politics it was well-known that that opinion was that they were a class distinguished by servility to the landlord—that if the politics of the owner of the soil was known so were also the politics of the tenant. He was afraid that there was some truth in this, that many watched the way in which the landlords voted, and they followed in the same track. Unhappily this political servility—this thinking one way and voting another was not confined to farmers. He was glad that the Ballot was about to be introduced, which would, he thought, enable a man to give his vote without running the risk of bringing injury upon his family, and to carry out those opinions he honestly entertained. He submitted that the farmer was much to blame if he allowed himself to vote contrary to his opinions. If a man took a decided stand he was respected, but if a man lent himself to the bidding of the man who would put the screw on the sharpest, that man was hated

up by men of both sides, and subjected to the greatest pressure. It was a most ungentlemanly and unhandsome thing for one man who held the prosperity of another man in his power that he should use that power to make him vote contrary to his belief—it was as unworthy on his part as was the servility of the man on whom this influence was used. He did not know how it was in this part of the country.

Mr. HAWKINS: We are all independent here (laughter).

Mr. EVERETT: But in his part of the country the national colour of the farmer was blue, and it was a fact which sometimes caused a little cogitation in his mind. If you let him alone throughout England he was blue without any coercion on the part of his landlord. He had lived to see Mr. Disraeli Chancellor of the Exchequer two or three times since he had taken an interest in the Malt-tax, and twice with a large surplus; and on one occasion, just before the Reform Bill, he could have brought in almost any Budget he pleased—he was so hard up to know what to do with the money that he began to propose paying off the National debt, and did not say a word about the Malt-tax. Among the various occupations followed in this country, there was none that had attained a higher degree of development than that of agriculture, and he took it that they had not been behind hand in the progress that they had made. If we compared the farmer of to-day with the farmer of a century ago, we should find that the progress and improvement in agriculture was as patent as the progress in other comparatively more intellectual pursuits. He had been asking himself in what respect they had made improvements. He thought that where the land was well farmed there was nearly as much corn grown formerly as now. The great advance had been made in stock. While corn had got cheaper, stock had got dearer, and attention had in consequence been given to the latter, and nothing had so much altered the farmers of the present day as the introduction of various new plants, enabling them to produce more food upon their farms than did their forefathers. The question was whether their attention could not be profitably directed to the introduction of further new plants. The farmers of the present day too, employed machinery of a superior class, there were greater facilities for feeding, by the discovery of the value of linseed and cotton-cake, and the productive powers of the land had been increased to a great extent by the introduction of chemical manures the value of which had not yet been fully developed. Then came the consideration of the farmer's wants, in connection with which point he remarked that if a man farmed upon the four-course shift, and occupied good land, he had no need to buy artificial manures if he made proper economy of the manure at home. He had been on to some farm premises in Shropshire where the buildings were on the four sides of a square, and in the centre was a receptacle for the manure, where it was daily thrown, and there was a substantial grating arrangement with drains leading from it to the cesspool, and in that way all that went out of the manure was saved and distributed with the most beneficial effect. Something of that kind was much needed in this county, it being almost a sinful waste to allow the best of the manure to run away, as it now frequently did in consequence of the defective arrangements. He would next touch upon the question of soil. In looking at heavy land and light land, and the systems pursued upon them, it had struck him that a man taking light land (and assuming that his object was to make money), if he meant to keep his money together, he must be very careful to keep his pocket buttoned up. He could not help thinking that high farming on light land was like pouring water into a sieve. Men might spend their money upon manures, but they would never see it again. He would advise any young man who was foolish enough to place himself upon light land, to keep his pockets buttoned up, to take what his farm would grow, and not attempt high farming, or it would soon land him in the workhouse. With heavy land, the case was very different; all the improvements of late years tended to bear fruit upon heavy land. Draining had done a great deal; and as to the chemical manures, this, as he had said, was a question only in its infancy, and it struck him that in the course of a few years corn would follow corn. Putting money into heavy land was like putting it into a good sound bank, and heavy land would bear cross-cropping for several years in succession. With reference to farming as an occupation, no doubt there was a great deal that was pleasant in farming. There was an amount of freedom and

independence which could hardly be enjoyed in any other calling. There was a natural pleasure in cultivating a piece of land, which was felt by most men, especially any one connected with land in youth. We saw flowers in the windows of cottages in the darkest streets and lanes of our great cities. Farming was an occupation that was good and exceedingly pleasant for a man to follow who was independent of his farm, and one sometimes exceedingly unpleasant to the man who was dependent upon what he could get from it for his existence. He should not like to give an opinion as to what were the profits of a farm. The Chancellor of the Exchequer assumed that the farmer's income was half his rent, and his tithe added together. He (Mr. Everett) thought they might take that as a fair data as to what the profits of the farm ought to be, and as to whether the profits of the farmers were that, it seemed to be a question of rent. Mr. Goheen thought the profits of the farmer under Schedule B had not declined, and that no one could say that farmers' incomes were less than formerly. If a farmer could get what the Chancellor of the Exchequer assumed to be his income, it would be found to be about ten per cent. on his capital; five per cent. for his money, and five per cent. for himself. If he had 250 acres, employing £2,500, there would be £125 for interest of his money, and £125 for himself, and including the tithe he would have about £150 as the reward of his labour. Considering the intelligence and attention that was required to make use of that money, that was about as miserable an occupation as a man could follow. He would say to the young man who was thinking about going into farming that if he felt he had a capacity to grapple with other men, if he felt he was able to hold his own amongst his fellows in the struggle of life, by no means let him become a farmer. You never knew a farmer to become very rich out of his business; if he had money, it was because he began with money, or had money left to the farm. He was afraid it was not in the power of anybody to gain a large fortune in the business. There was one other matter he must not pass by, and that was the question of rent. He had said that there was a profit of ten per cent. if a man paid a fair rent. Some had said that rent had nothing to do with farming. He did not believe any such thing. In his eagerness to obtain a farm, a man was not so careful of his rent as he ought to be. The position of a landlord, and a man who, like the gentleman in the chair this evening, had to set rent was a very delicate one. When a man went to a landlord, or an agent, and said he was willing to give so-and-so for the farm, and it was more than had been given before, it was of course difficult to withstand the temptation. His advice was not to pay too much rent—it was much better not to have farms than to pay too much rent. In his neighbourhood farms let at much higher rents; but he had lived long enough to find that those who paid the higher rent did not make the farms pay any more than their predecessors, and the extra amount of rent had to come in most cases out of their capital. Those who tried their hands at amateur farming at high rents spoke sorely of their experience. It would not do to pay too high rent. Those who did that would find that they missed crops as others did, and that they lost crops as others did; they might have a particular system, but they could not make the land produce more than its natural increase. If people would pay higher rents than their predecessors, they must expect to lose their money and their time. For his own part, he could not conceive where the crop of fools came from that took farms in that way. He knew farms in his own neighbourhood that had changed hands six or seven times, and every tenant had lost money. However, one man no sooner gave up than there were numbers ready to come in and take the farm. There were two ways pursued by landlords in dealing with this question. In the one case the instruction given to the agent was to this effect, "I wish this rent set so that the tenant can live. Though I do not wish to see him gain money fast, I wish to see the land let so that he can gain a livelihood, bring up his family respectably, and, when he dies, leave his son or his family a balance, so that they can carry on the farm." In the other case, there were those who instructed their agents thus, "Get all you can." This was a matter that was in the hands of the tenant as well as of the landlord. If his hearers had got good landlords, let them be thankful for it; but if they could not obtain land without paying more than anyone else paid for it, let it alone, and in time things

would find their own level, and land would be obtained at a fair price.

Mr. W. BAKER (Long Melford) said, with regard to light and heavy lands, the effect of the seasons, and speaking of 1849 to 1852, that was a time which would bring a heavy-land farmer to his senses, and make him feel as though he was somewhat out of his depth. Then there were the years 1855, 1859, 1860—seasons calculated to make a heavy-land farmer draw largely upon anything he might have in hand in the bank. As to men not embarking in farming pursuits, he pointed out that it would be found that eight out of ten engaged in mercantile pursuits went to the wall; whereas, though there might not be large fortunes made out of farms, only two out of ten of the agricultural community became bankrupt. Mr. Everett had touched upon politics. He (Mr. Baker) might say, as a tenant-farmer, that he had never gone against his convictions, and he would give the aristocracy the credit that was due to them, and say that he had never been asked by any landlord as to which way he was going to vote. His friend appeared to be somewhat of a Liberal; but he (Mr. Baker) was a Conservative, and he thought he might say that if a man would look into the matter he would find that every man before he was liberal must be conservative. Because, unless a man conserved that which he had, he could not be liberal to his friends. It was the law of nature to be conservative—to preserve that which was our own, and to conserve that which we believed to be the right of others. For himself, as a Conservative, he would not support anything which he believed would take from another an interest he had a fair claim in, or a right he was entitled to. In regard to the influence said to be possessed by landlords over tenants, there was an identity of interest, and men would accordingly be found to be working on the same side.

Mr. T. P. HITCHCOCK said the majority of light-land farmers were in favour of the retention of the malt-duty. The Scotch farmers grew some of the best barley in the world, and he never heard of a Scotch farmer electing a man on the ground that he was in favour of the reduction of the malt-duty. He (Mr. Hitchcock) always thought the advocacy of the repeal of the tax muddled. Mr. Everett had asked whether owners of coal and iron mines would have continued long under such an impost. These men, however, would be content with an easement of the burden from time to time until the whole was got rid of. They would not have said, "We will have the total repeal, or nothing." This principle of the gradual easement of the malt-tax was strikingly exemplified in the sugar duties and the penny postage. Mr. Everett, in speaking on this subject, hardly did Mr. Disraeli justice. What was it that Mr. Disraeli went out upon? He did not, it was true, go out upon the actual attempt to repeal the tax, but he did upon that which he would have substituted—the alteration in the income-tax. The members representing large towns and others attacked the man like a pack of hounds, and hounded him down, jeering at his agricultural predilections and his favourite theory of the malt-tax; and it was hardly fair to say that when in opposition they proposed certain things that they did not attempt to carry out when in office. If the farmers of England insisted upon the repeal of the malt-tax, what was to be done in regard to the spirit productions of Scotland and Ireland, the spirit-tax producing ten millions, while the malt-tax produced only about six? The ballot was considered to be the great cure for all the evils of the country. He must think that some of its advocates frequently entertained doubts as to the proper working of the ballot. They had the ballot in France, and what was the result? Let those who talked of the ignorance which prevailed in the agricultural districts, and the intelligence which prevailed in the towns, look at the Commune of Paris and the rural districts of France. He met the other day one of the most intelligent men he ever met in his life. He was an American, and he said, "I thank God I am not an Englishman;" but he added, "If I were an Englishman, I should be a conservative, and I should be a protectionist, because these are more adapted to the wants of your country." This gentleman, from his knowledge of the rowdism, the chicanery pursued in America, where they had the ballot, must have known that it would not do all that was expected of it. Mr. Everett's lecture was, he said, the best that had ever been delivered in that room, and he gave that gentleman the highest credit, not only for the matter of the address, but also for the manner of its delivery. ■

Mr. WILLIAM VINCE said that the amount derived from the malt-tax was seven millions this year. This was a large amount for the Government to spare all at once, unless a popular substitute could be found.

Mr. R. HAWKINS said there was no doubt but that heavyland would bear a good application of various kinds of manures, and he would give Mr. Hitchcock credit for having supplied him with some excellent guano, and he must say that he never found anything put on to heavy land pay so well as that. He had given it a fair trial, and he knew that it had well compensated him for the outlay he had made in that direction. Speaking of the profits of farms, he submitted that farmers were a most contented set of men. They were satisfied with little profits, and where was it possible to find another class of persons who were satisfied with five or ten per cent., which the farmers were obliged to put up with?

Mr. J. E. WRIGHT said that he had long been accustomed to heavy land, but he confessed that he had not such an affection for it as some people, and for his own part he should like to walk with much cleaner feet, or, in other words, if he were going to begin life again he should like to try his fortune on much lighter soil than he had been accustomed to all his life. Mr. Everett had spoken of the necessity of their being public men. He (Mr. Wright) would not enter upon that subject now, further than simply to say that he and others were happy to pay their subscriptions, and were at the same time greatly obliged to the gentlemen who took the lead in the various matters in which agriculturists were more or less interested, and they were much obliged to Mr. Everett for taking the interest he had done in regard to the malt-tax question. He (Mr. Wright) could not help thinking that a gradual reduction would be one means of securing the total repeal, and he very much questioned if the revenue would be much diminished in the long run by such a gradual reduction.

The CHAIRMAN said he agreed with the observation made by Mr. Everett as to apron-string farmers; while there were some of the most ridiculous of farmers, there were at the same time some of the best. They came into farming with no hereditary impressions, but with intelligent minds open to the reception of any idea, and in consequence they were often found amongst the best of farmers. In regard to the wages paid by farmers, he contended labour was a commercial article, and he submitted that the commercial and other gentlemen who said so much on the subject of wages paid to farm labourers, would not pay one sixpence more than they were compelled to do. Coming next to the political part of the subject, farmers were the worst of politicians. He would refer to the agitation for the repeal of the malt-tax, and instanced the case of one gentleman farming about 600 acres, who was a most vehement advocate for the repeal, but when appealed to for his subscription towards the expenses which were being incurred, put his name down for half-a-crown. This was, of course, an extreme case, but that was what marked the failure amongst them. It should be remembered that if they wished to achieve great results they must not spare a pound or two. As to the servility, of which so much had been said this evening, what was the difference between being servile to an individual, or being servile to a sect? He did not wish to name any particular sect, because he had a great respect for many sects he differed from. When he found one class voting always in one way, and another class voting another, he thought that if one class was open to the charge of servility, the other was equally so. Would it be fair for him to say that they were servile to the gentleman who enlightened them so usefully every Sunday? He thought it would perhaps be uncharitable, and at the same time he did not think his friend Mr. Everett's conclusions were altogether charitable so far as the tenant farmers were concerned. He argued that a man who lost his bread, his position in life, and cast his bread away from his family for the sake of his vote, was a fool (laughter and applause). A man's first duty was to those about him. Speaking of light and heavy land, he was decidedly of opinion that if he had to fix his tent again, he would never fix it upon land that did not require a scraper. He thought that ultimately the most profitable lands would be heavy lands. Allusion had been made to Scotch farmers. They paid very high rents, and they were disposed to give higher rents than any class of agriculturists; but it was a singular thing that, with all their resources they would not bear transplanting. There had been many

Scotchmen in these Eastern counties, but they did not stay long. He did not know the real reason, but perhaps the climate did not suit them, or very likely they did not get money fast enough. As to the profits of a farmer, he said he did not think the Government used them unfairly. Their calculation was that they got 10 per cent. Taking the great bulk of the farms he did not think that they got more than £7 or £8 per acre upon them. He quite agreed with the encomiums that had been passed upon his

friend Mr. Everett. There had not been a more successful meeting since he (Mr. Biddell) had been a member of the Club. A vote of thanks was passed on the motion of Mr. T. P. HITCHCOCK, seconded by Mr. HAWKINS, to Mr. Everett for introducing the subject in the admirable manner he had done.

The CHAIRMAN reminded the Club that the gentleman who had been lecturing to them that evening was the author of the prize essay on the Malt-tax.

ROYAL FARMERS' AND GENERAL INSURANCE COMPANY.

The annual general meeting, and also an extraordinary general meeting of the shareholders of this Company, were held at the Whittington Club, Arundel-street, Strand, on Tuesday, May 2, Mr. Alfred Denison, the chairman of the Company, presiding.

The manager, Mr. REDDISH, having read the Directors' Report, and presented the accounts,

The CHAIRMAN said that, as copies of the accounts had been sent to all who were present, he would at once move, "That the report just read, and the accounts now presented, be received and approved," and then would proceed to make some remarks thereon. Referring to the first clause of the report, which recommended the declaration of a dividend of 5 per cent., and a bonus of $7\frac{1}{2}$ per cent., it could not fail to be highly satisfactory to the proprietors that the directors were in a position, not only to pay those amounts, but also to add £5,570 to the surplus reserve fund, which, after providing for the dividend and bonus, would leave a total of £39,268, and that, too, after writing off £4,279 loss on the London, Chatham, and Dover, and Crystal Palace and South London Junction Railway Debentures, and a small amount for other bad debts. These losses were the result of investments made many years ago, when he was unconnected with the Company, and when the securities were considered of the first class, but they could not be written off till the award under an Act of Parliament passed for the purpose had been made. With reference to the next clause on the publication of accounts there was nothing to add to the remarks made by him at the last meeting, except that though the Act of Parliament directing such publication did not require that copies should be sent to the shareholders, they had been sent. The fire-insurance premiums had increased, but those for hail had slightly decreased, no doubt from the singular immunity from hail storms during the last two or three years, and the consequent forgetfulness of the serious losses which had happened in many previous years. With regard to some remarks made by him a year ago on the unfortunate result of the adoption of a class name, as tending to encourage an idea that the business of the office was restricted to farming property, while it really was intended to be as general as that of any office bearing a title entirely unconnected with class, the subject of altering it had frequently been considered, but it had always been thought better to bear with it, as a change might lead to a belief that the Companies was a new one. The clause inviting the shareholders to co-operate in obtaining an increase of business brought under notice "The Married Women's Property Act (1870)" as allowing a married woman to effect an insurance on her own life or the life of her husband for her separate use, and also as allowing a married man to effect an insurance for the benefit of his wife or children, in a manner to place it beyond the control of his creditors. As to insurances on the lives of married women, careful investigations had shown that insurances on their lives had been less profitable than those on the lives of men, probably because material facts had been concealed; for it had been equally well ascertained that women, as annuitants, had much outlived men. Few persons would purchase annuities but those in good health, while many would seek to have their lives insured under a belief that they should die early. He congratulated the proprietors on the clause relating to the insurance of farming stock, and the arrangements which had been made by the managers of the various offices—an arrangement absolutely necessary for the protection of the Company, and not involving an increase of rate, but merely obliging every one to

contribute according to the value of the property he desired to have insured. The reduction in the number of directors from twelve to nine, by resignations and death, had brought the number to the minimum fixed by the Deed of Settlement; his opinion was that business was much better conducted by a small than by a great number, in support of which he gave some details; and he added, that if it should be the pleasure of the meeting to adopt the recommendation that the future number should be nine, a resolution proportionately to decrease the annual allowance would be cheerfully accepted. Another subject was that of restoring to the Board the power to supply occasional vacancies in the direction from the time of their happening to the succeeding annual general meetings. The voluntary relinquishment of this power in the year 1860 had been caused by an erroneous view of the subject, as it appeared that none could be so well acquainted with proper persons to recommend as the Directors were; besides which, as the success of a company greatly depended on the harmony of the Board, there was danger in the introduction of entire strangers: the Board feeling its responsibility would, of course, not run the risk of temporarily appointing any one who could be objected to at the next annual general meeting.

Mr. SHEARER seconded the adoption of the Report, and after some remarks on the resignation of Mr. Samuel Jonas and Mr. Thomas Smith, and the death of Mr. Tuxford, the Chairman invited discussion on any of the matters before the meeting.

Mr. FILER alluded to the very handsome manner in which the Directors had placed the shareholders in a position to reconsider the amount of the annual allowance to the Board. The amount which for some years had been allowed was unanimously agreed to on a motion of his about seven years ago, when the dividend had reached 5 per cent.; since that time for three years the dividend with bonus has been 10 per cent.; and now for two successive years would be 12½ per cent. This being the case, and there being an accumulation of about £40,000 from unappropriated profits, forming a surplus reserve over the paid-up capital and every liability, he could not suppose a reduction of the grant would be proposed by any one; but, thinking it would be more agreeable to the Directors that there should be a distinct resolution than silent acquiescence, he would propose accordingly, leaving it to the Chairman whether he should do so by adding a few words to the motion then before the meeting or whether he should follow with a separate motion.

The Chairman having decided that Mr. Filer's proposal should be separately put, after some remarks from Mr. Haward, Mr. Ranger, Mr. Cutcliffe, and other shareholders, the motion for the adoption of the report was unanimously passed. Mr. Filer then presented his motion, which was seconded by Mr. Ranger, and carried unanimously.

Resolutions as to dividend and bonus, the re-election of Mr. Burroughes as a Director, and Mr. Begbie as auditor, were passed, and the thanks of the meeting having been voted to the Chairman, Board of Directors, and Manager, the general meeting was then declared to have terminated.

The extraordinary general meeting, called to sanction the reduction of the number of Directors, to arrange the order of their retirement, and to give the Board power to fill up vacancies from the time of any happening till the next annual general meeting was then held, and the resolutions in relation thereto carried.

THE "ROYAL" CHARTER.

"I wish to take this opportunity of thanking the Chambers of Agriculture generally for the great assistance which they have recently afforded me and my colleagues in the performance of a very difficult duty. I was perfectly well aware that in appealing to the Chambers of Agriculture and the Boards of Guardians in reference to the matter to which I allude, we were asking them to go beyond what was strictly in accordance with their duty; but at the same time I felt that the very unusual circumstance of the members of an English association having become banded together for the purpose of assisting a large body of agriculturists abroad was a sufficient excuse for trespassing on their time and attention. I firmly believe that a very great amount of good has been done among those foreign agriculturists to whom I allude." So said Lord Vernon, and very gracefully as it seems to us, at the Chambers' dinner of the other day. At a meeting of the committee of The Farmers' Club, as held some months previously, a letter was read from the honorary secretaries of the French Peasant-Farmers' Seed Fund, thanking the committee for having called the attention of every member of the Club to the movement. Then, again, just a year since, the council of the Royal Agricultural Society of England reported thus to a general meeting of its members: "The president and council of the Société des Agriculteurs de France have invited the Royal Agricultural Society of England to take part in the International Agricultural Congress to be held next year in Paris, and to furnish a report on British agriculture. The council have determined to accept this invitation," and so on. Alas! we all know but too well what has happened in the interim. Instead of the English council going as honoured guests to Paris, the Society of French Agriculturists have come as something like suppliants to England.

We have already shown how this appeal has been answered. The Chambers of Agriculture and Boards of Guardians have "gone beyond what was strictly in accordance with their duty," and the Farmers' Club has put the question as a personal one to each of its members, and yet there is one very noticeable omission here. It is true that in Lord Vernon there has been provided a most efficient chairman of the French Farmers' Seed Fund; but at the first meeting his lordship was careful to say that he attended only as an individual, and in no way as the representative of the Royal Agricultural Society. In fact, of all our agricultural institutions of any calibre the Royal Society has guarded itself, through its council, from evincing any sympathy with the terrible distress of the French farmers. It certainly accepted the invitation of the French Society, but so soon as that body fell into adversity its good English friend discreetly determined to know it no more. The cut complete was at once administered. The reason offered for this course, if not very novel is at least very noticeable. At a meeting of the council immediately after the French Fund was started, a member present proposed that a grant of £500 be authorised for this object; but he was at once met with the objection that the thing was impossible, the Charter really would not allow of the money of the Society being devoted to any such a purpose; and so the motion was withdrawn and the subject dropped. This story of the Charter stopping the way is of course a very old one, as, in years past, whenever anybody wished to do anything the Charter was

tolerably sure to interfere. No one, however, can have failed to observe how much the tone and conduct of the Royal Agricultural Society have improved within the last year or two; and really if the Charter be still the old bogle which frightens us from our path, the sooner its turnip-head be knocked off the better. But we scarcely see how in this case the Charter was to blame. If the council could not "go beyond what was strictly in accordance with its duty," as some other Societies had, it might at least do as much as it had done before. Instead of there being any impossibility about making a grant for the French Fund, there was the very strongest precedent to warrant such an act. In the cash account of the Royal Agricultural Society of England for the year 1862 the following item will be found on the expenditure side:

Memorial to the late Prince Consort—£100.

As we can find no reference to this in the report, we are here induced to seek some explanation. Has the Society laid out £100 for a memorial to its late lamented President to be placed in one of its own rooms? If so, the expense would clearly be as justifiable as the purchase of books, prints, or other house furniture? Or, on the other hand, has the Council simply given a subscription of £100 from the Society's funds towards a memorial to the Prince Consort, in which the Society has no interest whatever? Should this be the fact, as we take it to be, the further question naturally arises as to how the Charter can sanction a grant of £100 for a memorial to a Prince, and refuse to sanction any grant whatever towards the relief of a sorely-tried body of agriculturists? As Dr. Crisp says, the Charter certainly appears to be made of "squeezeable materials."

We have willingly testified for some time past to the manifest improvement almost everywhere observable in the way in which the business of the Royal Agricultural Society is conducted; and in proof of this we need go no further back than to the report of the proceedings of the council, as published in our last number. We can remember the day when that list of farms entered and judges appointed would have been kept back to the last possible moment; when everybody would have been sworn to secrecy, until everybody else knew every man who had a farm in training. In the good old times the report, wherein the Royal Veterinary College gets such "a wiggling," would have been carefully withheld from the public, or smuggled into a corner of *The Journal*, where nobody ever thought of looking for it. But those times are gone, members now do read their books, and the agricultural world knows, as it should do, very much of what the Agricultural Society is doing. Let, then, the council be especially careful not to inoculate their energetic Secretary and Editor with the lethargic matter of that musty old Charter. But, indeed, Mr. Jenkins already declares the Charter forbids any discussion of subjects to be brought forward in Parliament; whereas Dr. Crisp says everything now is brought before Parliament. In plain truth, the times have changed since the Charter was invented. Nothing was so safe in utterance some few years since as that precious piece of clap-trap about not interfering in the dealings between man and man, when the legislature is always interfering between man and man; just as agricultural matters are either pending or to be brought before Parliament.

Of course, as Dr. Crisp says and as everybody knows, the game evil materially concerns the progress of agriculture, to promote which the Royal Agricultural Society was instituted. But somehow or other the game evil seems fated to be shelved in certain quarters. The Central Chamber of Agriculture, whose special mission was to look to agricultural matters before Parliament, has

never taken up the question in earnest, as the Royal Agricultural Society would also avoid it, as its mission is *not* to look to matters before Parliament, but the rather to look very hard the other way. Still, if the Scotch farmer be permitted to denounce Hypothec in the *Journal*, the Southron may surely scare away the hares and rabbits from his own meetings.

THE INTERNATIONAL EXHIBITION AT SOUTH KENSINGTON.

The annual series of exhibitions commenced at South Kensington this year demand some notice at our hands, from the fact that it takes for illustration in the first series of manufactures, Wool and the Woollen trades, one of the principal industries of the country, and that in which farmers are necessarily largely interested. We have waited a short time after the opening so that the first hurry of inauguration might be over, and the exhibits and machinery at work be seen to advantage. That the Exhibition thus opened will become a fashionable lounge, appears already to be quite evident, for the artistic and attractive element is that which has evidently guided the minds of the Commissioners. Their primary object has been to collect all that could delight the eye and amuse the visitor, so that everything dull and unattractive in raw material, or monotonous in useful manufactures, has been either kept out of the building or thrown into the back ground. Fine Arts have the supremacy, and elegance and ornamentation rather than utility are the ruling deities. Hence the galleries are filled with statuary, pictures, architectural illustrations, porcelain, and china, whilst the humbler representations of the potter's art, and the shoddy cloths for the million, are ignored. Even in the representation of the living animals which furnish the raw material of the great woollen industry, we have but a meagre display, which is surprising, seeing that there is ample room for sheds to hold representatives of the several breeds of foreign and native sheep. As an international Exhibition or test of comparative progress, we cannot but consider the Kensington Show as an entire failure. The principal wool-producing countries of Europe, Australia, Africa, America, and India, are comparatively unrepresented, except by a few meagre samples of wool. The cases of fleeces, and samples of wool in the grease or scoured, with the large wall-space at command, might have been made most instructive and interesting, but the opportunity has been subordinated to the mere display of machinery at work in weaving and spinning, and an accumulation of fine arts. Pictures and music will, no doubt, attract the select pleasure-seeking public; but the great manufacturing interests of the world ought to be treated fairly, and if they are invited and admitted, they should have their place of honour equally with the artist or the art-manufacturer. London is largely interested in the woollen manufacture, as the bulk of the foreign wool imported comes here. Out of 880,000 bales received last year, 711,000 came to London, and were distributed to home and foreign manufacturers at the colonial wool sales, held in London. Liverpool received about 148,000 bales. There are in London 5 wool warehouse keepers, 33 wool brokers, 29 wool merchants, and 13 wool staplers, to say nothing of the 163 woollen warehousemen and the large army of woollen drapers who supply the millions of customers of the metropolis. The proportion of the fleece of one sheep per head to the population kept in the kingdom,

does not furnish enough wool for our own use, irrespective of the foreign demands made for our woollen manufactures; hence our factories are such excellent customers to the sheep breeders of the Cape, Australia, and the River Plate. The manufacture begins with the stapler, who buys the wool of the farmer, or broker, and ends with the merchant. It is divided into three principal processes, which are again subdivided. First there is what is called the manufacturer, secondly the finisher, and thirdly the rag grinder. The first manufactures the raw material into cloth. The second finishes it, or gives it its appearance as it is ordinarily worn. The third takes the manufacture of the two former processes when thrown aside by the wearer, cuts it into patches, which he forcibly tears asunder, and then remodels it into raw material, to be again used by the first customer. Of so much consequence is this last process to the trade that the rag machines of the town of Leeds alone are capable, in full work, of adding to the annual stock of wool the equivalent of the fleeces of 600,000 sheep, averaging 7 lb. each. The woollen trade of the kingdom is divided into three great sections, comprising—1. What is known as worsted fabrics made from combed wool; 2. Woollen fabrics made from carded wool; and, 3. Shoddy fabrics, made chiefly from old woollen rags and the wool extracted from mixed goods, and reworked up with a little new.

THE WORSTED MANUFACTURE, though for some centuries it had its chief seat in Norfolk, Suffolk, and Essex, has now obtained a remarkable concentration in the West Riding of Yorkshire. Out of 131,896 factory operatives in the worsted trade of the United Kingdom, 121,978 are in Yorkshire. The town of Bradford is the great centre of the manufacture, and the principal market for the disposal of its productions. There are also large numbers engaged at Halifax, Keighley, Bingley, and Waterford, besides others distributed over adjacent villages and other counties—such as Leicester and Norfolk. To these must be added a large number of persons employed in Lancashire in the manufacture of mouseline de laines and other light worsted fabrics, and who in the factory returns are included in the department of cotton. It should also be borne in mind that, besides the hands employed within the factories, there are numbers of wool-sorters, combers, hand-loom weavers, dyers, &c., employed out of the factory, and these at a moderate calculation may be reckoned at fifty per cent., or one worker employed out for two in. The worsted factories in 1868 were 687, of which 298 were employed in spinning; 2 being in Devon, 1 in Durham, 3 in Lancaster, 4 in Norfolk, 2 each in Somerset and Westmoreland, 7 in Worcester, and 272 in York; 213 exclusively employed in weaving, of which 1 in Durham, 5 in Lancaster, 3 in Warwick, 24 in Worcester, and 180 in York; besides which there were 165 employed both in spinning and weaving, all in Yorkshire, except one at Worcester. There were besides these 16 factories

not included in the above descriptions, 1 being in Durham, 2 in Lancashire, 8 in Middlesex, and 10 in Yorkshire. A distinguishing feature in the worsted trade is the variety of fabrics produced, and the diversity of purposes to which they can be applied. Thus we have fabrics composed entirely of wool, of wool and cotton, of wool and silk, of wool, silk, and cotton, and of alpaca and mohair mixed with cotton and silk. The first division includes the old fabrics called says, serges, shalloons, lastings, and other stout and heavy articles largely consumed in the export trade. It also includes damasks for furniture and hangings, made chiefly at Halifax, and single-twilled merinos, which up to the year 1836 was the main article sold for ladies' dresses. Under the second head are comprised the two fabrics known as Coburg and Orleans cloths, the production of which is immense. The silk-warp and worsted-west goods are rich and durable, and include the elegant productions of the Norwich looms. The alpaca and mohair manufactures are carried on chiefly at Bradford and Bingley, and are used largely for ladies' and children's dresses, for coatings, vestings, linings, umbrella and parasol cloths, &c. After deducting the export of worsted goods, there will still remain for the whole female population of Great Britain and Ireland, from the infant in the nurse's arms, to the "oldest female inhabitant," a dress of worsted stuff each year seven yards in length.

2. THE WOOLLEN MANUFACTURE.—The West Riding of Yorkshire and the West of England are the chief seats of this extensive industry. Leeds is the most important centre, and may be considered the metropolis of the woollen trade. Huddersfield, with its neighbourhood, is the second in importance, and is famed, in addition to the production of broadcloths, for its large trade in fancy trowerings. In the West of England, Trowbridge, in Wiltshire, is the centre of a large district which produce fancy goods and light cloths of many descriptions; and Stroud in Gloucestershire is celebrated for its scarlet and other bright-coloured cloths, a celebrity which it derives from the peculiar fitness of its waters for the dyeing processes. The woollen manufacture in its various branches is very extensively diffused, and not concentrated like cotton. According to the last factory return it prevailed in 23 counties of England, 10 of Wales, 25 of Scotland, and 12 of Ireland. More than one-half of the operatives employed in the woollen factories were in the county of York—57,843 out of 101,938. The Scotch goods, tweeds, tartans, &c., are generally of a beautiful soft character and permanent dye. Blankets, which are also included in this class, are chiefly made at Witney in Oxfordshire, and at Dewsbury in Yorkshire. Flannels are produced in Wales, chiefly by hand labour, and Rochdale and district is now the centre of the English branch of this trade. Felt druggeting is made in the Yorkshire district, and is largely used in England as a cheap substitute for carpets. The woollen factories employed in spinning in 1868 were 549, distributed as follows: Anglesea 13, Brecon 9, Cardigan 30, Carmarthen 22, Carnarvon 21, Chester 5, Cornwall 1, Cumberland 8, Denbigh 11, Derby 4, Devon 3, Durham 1, Flint 2, Glamorgan 35, Lancaster 8, Leicester 22, Lincoln 1, Monmouth 16, Montgomery 23, Norfolk 2, Nottingham 2, Oxford 8, Pembroke 18, Salop 4, Somerset 8, Westmoreland 9, and York 263. There were 42 employed specially in weaving, located in the following counties: Chester 2, Lancaster 2, Pembroke 1, Salop and Somerset each 1, and York 35. The number employed in spinning and weaving conjointly was 635, as follows: Carmarthen 2, Carnarvon 1, Chester 10, Cornwall 1, Cumberland 2, Denbigh 5, Derby 9, Devon 9, Durham 3, Gloucester 62, Hereford 2, Lancaster 81, Merioneth 5, Montgomery 9, Northumberland 9, Ox-

ford 2, Pembroke 1, Radnor 1, Somerset 11, Westmoreland 3, Wilt 25, and York 382. Of factories employed only in finishing, there were 34 in Lancashire, and 96 in York; and besides these were 64 factories not included in either of the above descriptions, situated 5 each in Chester and Devon, 1 each in Leicester, Middlesex, and Northumberland, 9 in Somerset, and 43 in York.

3. SHODDY FABRICS.—The number of shoddy factories in 1868 was 23 in Lancashire, and 81 in Yorkshire. These gave employment to 3,187 persons, about half male and half female.

Having now given an introductory sketch of the woollen trade generally of the country, as illustrated by the samples and machinery shown in the Exhibition, we now proceed to speak in detail of some of the objects.

The woollen manufactures are so widely scattered that it is difficult to form an opinion of their comparative merits. The carpets of various kinds are hung on the walls of the lower pottery, or eastern arcade, beneath the foreign picture gallery, while the broadcloths and general woollen goods are badly displayed, for the most part on folding screens in the various upper circular galleries of the Albert Hall, involving great fatigue in reaching them.

In representation of the hair and wool bearing animals we noticed three small stuffed Shetland sheep exhibited by J. Laurensen in the machinery court, and a few living animals in sheds in the adjoining yard contributed from the Zoological Gardens and by some private exhibitors. They comprised the following animals: By the Zoological Society of London, a female guanaco (*Archenia guanaco*), a male llama (*A. glama*), two small female moufflons (*Ovis musimon*), the wild sheep of Europe, a male of the Cashmere shawl goat (*Capra hircus*), and a black male of the Indian fat-tailed sheep (*Ovis aries*). Miss Burdett Coutts lends two male, and one female, alpaca (*Archenia paco*); Messrs. Sturgeon, Son and Co., of Grays' Hall, Essex, two Merino rams; Mr. H. Dudding, a long-woolled Lincoln; Mr. T. B. Browne, a long-woolled Cotswold; and Mr. J. W. James, a pure Dorset ram, as a representation of intermediate wool; Mr. G. Wallis, an Oxfordshire Down; and Mr. T. B. Browne, a Gloucestershire sheep, as illustrations of short wool. Near the door in passing out to the shed of living animals, is a case of wool in 24 compartments, in which are samples of Hampshire teg and ewe wools, of Wiltshire, Sussex and Dorset; ditto of Kent wethers and Dorset horns. Above it stands a small case with a fleece of white Iceland wool, shown by C. C. Brochner & Co., of Hull. Robert Girdwood, wool broker of Tanfield, Edinburgh, shows 42 fleeces of Scotch wool of last year's clips, including laid Cheviot, Southdown (2nd cross), hogg fleece, Leicester, Shropshire, &c. Richardson and Fletcher, wool brokers of Dublin, show five Irish fleeces and samples of lamb's wool.

The annual production of wool in Ireland previous to the year 1865, only amounted to about 25,000 bales (2½ packs each), but from that time to the present there has been an increase, bringing the amount up to 31,000 bales, which, for common purposes, may be divided into four principal classes: Dublin type, comprising Counties Carlow, Kilkenny, &c., about 18,000 bales; Galway type, with parts of Cork, Mayo, Clare, &c., &c., 7,000 bales; Mountain and Seaside, Wicklow, Mayo, Kerry, &c., &c., 3,500 bales; Cross-breeds, Scotch and Sundries from Mayo, Donegal, &c., &c., 2,500 bales.

Breeders are giving a marked preference to long-woolled sheep, and they are employing almost exclusively Leicester and Lincoln rams. The natural consequence is, that we remark in the returns of the Agricultural Commission a considerable increase of the so-called Dublin type, and a diminution of the Galway. This, of course, is a conse-

quence of the great demand which has existed for some time past for deep bright lustre wools for Yorkshire.

Of Australian wools, the Peel River Land and Mineral Company (Limited), show fleeces of Merino. A. Webster fleeces from New South Wales, Queensland, Victoria, and New Zealand. T. Russell and Co., and Messrs. Learmouth, Victoria fleeces. Sturgeon and Sons, Grays, Essex, samples of Merino washed wools. David Smith, in the illustration of his chemical process of cleaning Buenos Ayres burry wool, shows English wool-pickings, locks from foreign skin wool, for cloth-making when burred by machinery; scoured Buenos Ayres, and burrs or waste. Robert Linklater shows Shetland wool in natural colours, and J. Cogswell, Silesian wool; Jackson Barwise, Californian and Nevada wool. Of Hungarian wools there are a few exhibitors. The Wool Washing Manufactory of Peth shows a case of ten samples of washed, Mr. C. A. Kretschmar Hungarian wool, and Salamon, Bisehitz and Son washed and unwashed Merino, and J. Hung two skeins of yarn. G. Mallinson, jun., of Huddersfield, exhibits a fleece of wool in sorted qualities, and a collection of colonial wools, more than 24 samples. Petrie's improved wool-scouring machine (Rochdale), with new patent slide lifting and delivery apparatus, with swing rakes, separately balanced, and elastic steel weight levers, &c., is interesting in operation. The last balanced swing rake delivers the wool upon the plate bars of the slide-lifter. It is then passed forward towards the squeezing rollers by brass teeth alternately protruding and retreating. The wool is conveyed up the incline in such a way that it does not hook, felt, or tangle, and is in the process thoroughly drained. This invention is adapted to all wools—long or short staple. It is not liable to get out of order, and for the purpose has been found a simple, durable, and efficient machine. The lifter can be applied to old machines. Water under pressure can be passed through the pipe of the mud-swiller to swirl out the sand or dirt from underneath the perforated bottom plates when cleaning out the washing bowl. They also show an improved wool-drying apparatus for hot or cold air. In the exterior yard, parallel with the Machinery in Motion Court, there are portable 10-horse engines, by Ruston, Proctor, and Co., Robey and Co. (limited), and Marshall, Sons, and Co.; one of 14-horse power, by Ransomes, Sims, and Head. Messrs. Robey and Co., also have an 8-horse power engine working Hodgson's patent wire rope transport system which is now in use by the Government at Purfleet, by the Secretary of State for India, by the Spanish Government and by many leading firms at home and abroad. It is simple, cheap, and effective in its action. There is a line 3 miles long at St. Quentin, France, which carries 100 tons of beet-root daily to the sugar factory and distillery. The intermittent nature of this work renders it essential to adopt a method of transport which shall cost nothing when not employed; and the fact of being independent of bad roads in the winter season, when this manufacture is carried on, has been found of itself a sufficient advantage, without counting the enormous saving effected over road transport under any circumstances. In the tropics it will also be found invaluable. The absence of roads on most sugar plantations, and the immense quantity of cane to be transported in proportion to sugar produced, make the merits of the wire tramway for this purpose distinctly appreciable. The mountainous districts in which coffee is always grown stand in special need of a contrivance for carriages which is practically independent of surface irregularities. Although the weight of coffee collected from the different parts of a plantation may not make it worth while to construct internal means of communication, yet the aggregate of district produce is now conveyed to market

by means oftentimes as expensive as carriage by wire tramway. The line exhibited is a short section of one capable of carrying 100 tons per day, divided into 1 cwt. loads. The shunting arrangements at the termini are in practice from three to six miles apart, and the rope is supported over the whole distance by from 70 to 150 posts and pulleys similar to those shown. The engine driving this line is capable of working one $1\frac{1}{2}$ miles long. The longest line at present constructed is fourteen miles. Messrs. Ensor's line, at Woodville, near Burton-on-Trent, carrying clay, has been at work eighteen months, and has given great satisfaction: it has the original rope now running. Lines of this system may be described as consisting of an endless wire rope, supported on a series of pulleys carried by posts, which are ordinarily about 300 feet apart. Where necessary, much longer spans are taken, amounting to 1,000 feet. This rope passes at one end of the line round a drum, driven by any available power, at a speed of from four to six miles an hour. The boxes in which the load is carried are hung on the rope at the loading end, the attachment consisting of a pendant of peculiar shape, which maintains the load in perfect equilibrium, and at the same time enables it to pass the supporting pulleys with ease. Each of these boxes carries from 1 cwt. to 10 cwt., and the delivery is at the rate of about 200 boxes per hour. The loading and discharging arrangements, as well as the proportions of such lines, can be varied to any extent to suit the requirements of any particular trade, the carrying power ranging from 10 tons to 1,000 tons per day. A special arrangement is made at each end of the line, consisting of rails so placed as to receive the small wheels with which the boxes are provided, and shunt them from the rope. The boxes thus become suspended from a fixed rail instead of the moving rope, and can be run to any point to which the rail is carried for loading or delivering, and again run on to the rope for returning. The succession is continuous, and the rope is never required to stop. Curves, either sudden and sharp, or of large radius, are easily passed, and inclines of one in six or seven are admissible on this system, and by special arrangements gradients of one in three are surmounted. The rope may be driven by steam or water power, or in small applications by horses, for farming, &c. Its applicability to cross mountainous or hilly districts will be apparent at a glance, as its cost of construction increases but little under such circumstances, whilst that of a road or railroad is, perhaps, increased tenfold, and its daily working cost doubled or trebled. The rope being continuous no power is lost on undulating ground, as the descending loads help those ascending. In the minor applications, such as short transport from mines to railways, the landing or shipping of goods in harbours and roadsteads, and the carriage of agricultural produce on farms, some peculiar features of the system render it specially advantageous. Amongst these are the facility with which power can be transmitted by the rope and taken off at any required point for mining or other purposes. In lines terminating on the seaboard, or on great rivers, a manifest advantage is secured in the facility for taking goods direct to or from ships in harbour or roadstead without transhipment into lighters. The following is the approximate price constructed in England; for 6-mile lengths shorter lines are relatively rather dearer. 50 tons per day in $\frac{1}{2}$ cwt. boxes: Machinery and rope pulleys, posts, &c., £216, rolling stock £51, engine £73. The cost of working these lines will vary much, according to circumstances, but may be generally stated thus for average conditions and ten mile lengths, viz: 50 tons per day 2½d. per ton per mile, 100 tons per day 1½d. per ton per mile, 200 tons per day 1½d. per ton per mile, larger quantities at 1d. per ton per mile. The

above estimate includes every item of engine power, labour and attendance, repairs, replacement of rope, lubrication, and interest on capital.

Some fleeces sorted in cases are shown by Mr. E. D. Marriner, including Sussex, Hampshire, Wiltshire, and Kent wools. The principal machinery attracting attention are the worsted-carding engine of Platt Brothers; the back-washing machine of S. Wood; Noble's short-wool combing machine, and the wool-winding machine—all by Walmsley; Lister's long-wool combing machine; several of Keighley's power looms, Leeming and Co.'s worsted loom, Hall's Brussels carpet loom, and Templeton's (of Glasgow) Brussels carpet loom; Tuer's yarn-winding machine; Platt's wool-burning machine, with feeder and wool chamber, and a woollen power loom; Hall's (of Bury) Scotch carpet loom, and a loom weaving Brussels carpet, with patent magnetic wire motion; Ferrabie's cloth-fulling and raising, or dressing machines; Gwynne's wool and sheep-shearing and wool-washing machinery. There are very few foreign exhibitors in wool machinery, M. C. Martin, of Belgium, being the principal—he shows carding engines, reeling machines, opening or burring and oiling machines. In England oiling is usually performed by hand, most unevenly and ineffectually.

In the woollen galleries, the Bradford Chamber of Commerce shows a large and fine collection of mixed goods, representing the trade of the town and district, including specimens of sateen cloths, wool reps, and serges, moreens, lastings, coatings, plain backs, says, merinos, shawl cloths, paramatta silk warp, and paramatta Norwich, baréges, camlets, buntings, and double twills; also fancy prints, and figured goods, and plain mixed dress goods. W. Bliss and Son, of Chipping Norton, serges, shawls, and coverlets. The Stroud Local Committee makes a good collective display of coatings and trousseings; and there are thirty private exhibitors—not a large representation of this wide-spread and extensive manufacture! Of flannels, blanketings, and rugs, there are but six British exhibitors, and only eight foreign. In miscellaneous woollens, the Wandle Felt Company, B. Hepworth and Son, R. A. Sanderson and Co., and J. Wilkinson, Son, and Co., are the only British contributors. In furniture, woollens, and miscellaneous, the Wakefield Chamber of Commerce show Shetland, fleecy, and Andalusian wools, and fingering and knitting worsteds; Pim Brothers, and W. Fry and Co., both of Dublin, poplins and terries; for upholstery purposes, Laurenson and Co.; and Thomas Edmundson, Shetland wool goods; and R. Evans and Co., fringes and tassels.

Horticulture is to form one of the attractions of the Exhibition this year, in the arrangement of which section the Royal Horticultural Society will take the lead. Already in the arcades of the Horticultural Society, near the Conservatory, are shown some objects interesting to farmers and others. John Unite, of the Edgeware Road, has neat styles of tents and marquees and waterproof rickcloths; Messrs. Paul and Son, of the Old Nurseries, Cheshunt, Herts, have a fine display of hardy ornamental shrubs and trees, roses, &c.; Mr. J. Wills, of the Exotic Nursery, Old Brompton, floricultural and horticultural buildings and decorations, &c.; Carter, Dunnett, and Beale, seedsmen and nurserymen, Holborn, have a large collection of agricultural seeds, pulse, &c., including such varieties as in peas—Veitch's Perfection, King of Marrow, McLean's Princess Royal, Premier and Advancer, Bedman's Imperial, British Queen, Imperial Wonder, and Laxton's Quality, Mammoth purple and Imperial green kohlrabi, London purple-top

swede, Imperial hardy swede, mangold wurzel, Florthan's and Longfellow's Pomeranian white globe turnip. Of wheats, the finest shown are Yorkshire White, Chedham, Golden Drop, White Talavera, and Nursery; red, white, and trefoil clovers, and numerous grass seeds, with mixed samples for permanent pasture. In another arcade Messrs. Carter show their fertilizers and different horticultural elegancies. The finest and most attractive display is, however, that of Messrs. Sutton and Son, of the Royal Berkshire Seed Establishment, Reading, who have fitted up a most expensive, elaborate, ornamental stand, most artistically and scientifically arranged, in an extended series of upright small glazed compartments, in which an enormous variety of seeds are arranged, classified, and scientifically named. This is, perhaps, one of the most complete and interesting collections of seed ever exhibited. It is inclosed in a handsome polished glass case, divided into numerous compartments, and includes nearly 300 different specimens of the leading varieties of vegetable, farm, flower, and tree seeds. There is a large collection of varieties of maize on the cob. The case is surmounted by some handsome and truthful paintings of various kinds of agricultural roots, and on one side are fine specimens of mangolds, swedes, and potatoes, in splendid condition, giving strong evidence of their good keeping qualities. There is also a most valuable collection of botanical specimens of grasses, useful alike for instructive and business purposes, including the Poa, Festuca, Bromus, Dactylus, Stipa, Andropogon, &c., with numerous varieties of grass and clover seeds for permanent pasture, lawns, and other purposes, some of which have recently been used by Messrs. Sutton in sowing down the ornamental grounds in the Eastern annexe and French courts.

In the Pottery class the following objects alone call for notice in our columns: Kiln tiles for drying malt at 9d. and 10d., and Suffolk bricks 50s. per 1,000, by C. O. Fison; beehive-shelves, jars, filters, and other articles, by Doulton and Watts; corrugated clay roofing and ridge tiles, the former £5 per 1,000 unpainted, the latter 1s. 6d. each, bricks 27s. the 1,000, 3-inch and 6-inch drain tiles 26s. 6d., and 4 gs. the 1,000, by Hy. Canister; subsoil drains and semicircular pipes, by Edward Brooke and Sons, Field House Fire-clay Works, Huddersfield; fire-bricks, sanitary pipes, and drain taps, by the Kinsor Pottery Company; drainage pipes, by Henry Doulton and Co.; sewer pipes, by James Stiff and Sons; agricultural pipes, by H. J. and C. Major; agricultural roofing, and ridge tiles of ferrometallic clay, by Thomas Peake; brick-making machine, with hand feed and travelling hand cutter, by J. D. Pinfold; a patent brick-making machine, by Pollock, Laing, and Powley; Clayton, Son, and Howlett's patent self-delivery brick-cutting apparatus; roofing tiles (Taylor's patent), from the Broomhall Tile and Brick Company; Mr. John Matthews, the Royal Pottery, Weston-super-Mare, exhibits ornamental vases, floral arborescences, garden-pots, and all descriptions of pottery.

Among the miscellaneous objects Messrs. Chaplin and Horne contribute a wool store, but it is *not* filled with bales of wool; Messrs. Cumming and Edwards a forage barn; Messrs. F. Morton and Co. strained wire sheep-fencing and continuous deer or park fencing for animals and enclosures; Messrs. A. Chaplin and Co. a portable steam crane for loading and unloading goods, which can be made to propel itself.

SALE OF A PORTION OF LORD PENRHYN'S SHORT-HORNS,

AT WICKEN PARK, STONY STRATFORD, ON TUESDAY,
MAY 2ND, 1871.

BY MR. STRAFFORD.

This was the fifth periodical sale of Lord Penrhyn's surplus stock. Two herds are kept, the principal one being at Penrhyn Castle, North Wales, and a smaller one on the Buckinghamshire estate at Wicken, where the sales are held. As on all previous occasions there was a very large company present, not only of his lordship's friends and the aristocracy of the neighbourhood, but a large number of Shorthorn breeders and farmers from far and near. One tribe of more or less fashionable descent is generally included in the catalogue. In 1869 the Darlingsons and Wild Eyes sold remarkably well, and this year the Duchess Nancy tribe was offered, fourteen of which averaged about £108. There were also some other equally good and in a few old breeders' opinion even better-bred tribes to the fashionable Duchess Nancys, which have for some years past been considered as the best-looking stock at Penrhyn. The others were Mr. John Wood's old Rosebud, of the same tribe as that recently sold at Stanwick Park at an average of £92; Mr. Robinson's Red Rosette, better known by the name of the Revelrys, descended from Mr. Waldy's stock, whence came the Butterflies; also his Queen of Hearts, of Mr. Crisp's blood; and finally the Virgins, bred from an old Lincolnshire family. The prices realized for these animals were so uniform that no difference in public favour could be estimated thereby, with one exception however. The whole of the Red Rosettes were bought by Mr. Thornton at an average of about 60 gs., and also the highest-priced heifer of the Wood blood. The stock certainly reflected the highest credit on the management of Mr. Doig at Wicken, and Mr. Smith of Penrhyn, as they were brought out in first-rate order and blooming condition. The old cows were remarkably good, the first three being excellent animals, and by many thought better than the young stock; and although the Duchess Nancys showed little difference in point of symmetry or quality to the others, yet the extra demand on account of the fashionable blood told upon the prices. The second cow, Dulcinea, was a square fine animal, which readily made 80 gs.; and Dora, of a sheety red and white colour, went rather cheaper at 60 gs. Duenna was a very stylish Bates stamp of cow, with two pure Dukes on the Towneley cross; and Rose was, if anything, more massive, with a remarkably fine fore-end. Mr. Garne bought two thin but useful heifers in lots 10 and 11, which, as it was rumoured, were for a certain company abroad; and the steery-looking but handsome Diana was cheap at 60 gs., if a breeder. Mr. Barnes, of Hanwell, gave 150 gs. for Dorothy and 160 gs. for Dutiful, two of the best three-year-olds in the sale, for Mr. Foster, of Killhow; and Mr. Beauford bought two or three good lots for Sir Frederick Williams, of Cornwall. Cowalip 2nd, the only heifer of the tribe in the sale, was full of symmetry but very rough headed, while she sold well at 120 gs. Dido, an extremely rich-coloured but rather light hind-quarter heifer, fetched 155 gs. from Mr. Stone. The calves sold very high; the last in the catalogue, out of Dorothy, was put in at 50s., but she soon went away to 76 gs., when Mr. Foster bought her. Two young calves of the Duchess Nancy tribes fetched respectively 42 gs. and 65 gs. each.

The bulls have always been a feature in Lord Penrhyn's herd. Selecting the best in the country himself, those bred at Penrhyn have been in good demand. Most of the animals were by Duke of Geneva (19614), Third

Duke of Wharfedale (21619), or Eleventh Grand Duke (21849), all of the Duchess blood; or by Cherry Duke (25752), of the Cherry blood, and Second Duke of Geneva (21591), a Wild Eyes bull, and apparently a very good getter. Twenty-one young bulls were now offered, some of which were exceedingly well bred. Duke of Waterloo, the first bull, was thick-fleshed and well coloured, but his blind-fold face told of bad temper; and he went at only 51 gs. The two other Waterloo bulls were considered two of the best; Second Duke of Wellington, a red of very fine quality and flesh, was bought for Mr. G. Paine, of Essex; and Mr. Thos. Morris, of Maisemore, took Third Duke of Wellington at 90 gs. Three bulls of the old Cherry tribe, were not quite so fine in their hair and girth as many like. Mr. Dormer bought Second Cherry Duke, rather coarse-looking, for 175 gs.; while third Cherry Duke was a better bull, and Mr. Finlay Dun took him for 200 gs.; and the third, a well-made animal, but unfurnished, made only 40 gs. Second Wharfedale Oxford was bred from the Oxford tribe, a useful bull with a broad loin; but the biddings were very slow, and he finally went to Mr. Garfit for 155 gs. The Duchess Nancys have usually produced good bulls, and one of them now made 175 gs. Some calves, it will be seen, were sold at capital prices. Lord Penrhyn, as usual, occupied the chair at the lunch; and the result of the day was altogether encouraging.

COWS AND HEIFERS.

Gracious, red and white, calved May 3, 1858, by Marmaduke (14897)—Mr. W. Nevett, 31 gs.
Dulcinea, red, calved April 1, 1863, by Duke of Geneva (19614)—Lord Sudeley, 80 gs.
Red Rosette, red and white, calved April 12, 1863, by 2nd Duke of Thorndale (17748)—Mr. John Thornton, 51 gs.
Queen of Airdrie, red and white, calved June 21, 1863, by 2nd Duke of Aidrie (19600)—Mr. John Lynn, 46 gs.
Dora, red and white, calved May 15, 1865, by Duke of Geneva (19614)—Mr. R. E. Oliver, 60 gs.
Sylvia, roan, calved July 27, 1865, by Vampire (19043)—Mr. Pynn, 41 gs.
Duenna, red and white, calved January 9, 1866, by 11th Grand Duke (21849)—Mr. J. Clayden, 110 gs.
Rose, red and white, calved October 9, 1866, by 2nd Duke of Geneva (21591)—Mr. John Thornton, 105 gs.
Queen Anne, roan, calved December 5, 1866, by 2nd Duke of Geneva (21591)—Mr. W. Nevett, 62 gs.
Dulcimer, red and white, calved February 13, 1867, by 11th Grand Duke (21849)—Mr. G. Garne, for America, 105 gs.
Rose of Wicken, red and white, calved October 3, 1867, by 2nd Duke of Geneva (21591)—Mr. G. Garne, 87 gs.
Diana, red roan, calved March 2, 1868, by 3rd Duke of Wharfedale (21619)—Mr. Stone, 60 gs.
Dorothy, red and white, calved April 1, 1868, by 3rd Duke of Wharfedale (21619)—Mr. C. Barnes, for Mr. J. P. Foster, 150 gs.
Seraph, white, calved April 3, 1868, by 2nd Duke of Geneva (21591)—Sir F. C. Hams, 60 gs.
Gratitude, red and white, calved May 1, 1868, by 3rd Duke of Wharfedale (21619)—Mr. Woodward, 41 gs.
Queen Mary, red and white, calved October 2, 1868, by 2nd Duke of Geneva (21591)—Mr. C. H. Cocks, 100 gs.
Dutiful, red, calved January 16, 1869, by 3rd Duke of Wharfedale (21619)—Mr. C. A. Barnes, for Mr. J. P. Foster, 160 gs.
Cowalip 2nd, red and white, calved February 14, 1869, by 3rd Duke of Wharfedale (21619)—Mr. G. Garne, 120 gs.
Rebecca, red and white, calved March 5, 1869, by 4th Grand Duke (19874)—Mr. John Thornton, 51 gs.
Dido, roan, calved March 24, 1869, by 3rd Duke of Wharfedale (21619)—Mr. Stone, 155 gs.
Sylph, red and white, calved July 2, 1869, by Cherry Duke (25752)—Mr. George, 44 gs.
Queen Eleanor, roan, calved July 21, 1869, by Cherry Duke (25752)—Mr. Cocks, 60 gs.
Grateful, red and white, calved September 29, 1869, by 3rd Duke of Wharfedale (21619)—Mr. Musgrove, 71 gs.

Garland, red and white, calved January 1, 1870, by 11th Grand Duke (21849)—Mr. John Thornton, 91 gs.
 Daphne, roan, calved March 11, 1870, by 3rd Duke of Wharfedale (21619)—Mr. Garne, 115 gs.
 Diligent, roan, calved March 22, 1870, by 3rd Duke of Wharfedale (21619)—Mr. Webb, 105 gs.
 Sunbeam, roan, calved July 1, 1870, by Cherry Duke (25752)—Mr. J. M. Harding, 26 gs.
 Queen Mab, red, calved August 5, 1870, by Cherry Duke (25752)—Mr. Harding, 40 gs.
 Dignity, red and white, calved February 4, 1871, by 11th Grand Duke (21849)—Mr. R. E. Oliver, 50 gs.
 Ruby, red and white, calved February 14, 1871, by Cherry Duke (25752)—Mr. John Thornton, 31 gs.
 Daffodil, red and white, calved March 2, 1871, by 11th Grand Duke (21849)—Mr. R. E. Oliver, 76 gs.

EXTRA HEIFER CALVES.

Dulcet, red, calved March 31, 1871, by Cherry Duke (25752)—Mr. J. T. Smith, 42 gs.
 Duet, red, calved April 11, 1871, by Cherry Duke (25752)—Mr. J. Clayden, 65 gs.

BULLS.

Duke of Waterloo, roan, calved July 7, 1869, by Cherry Duke (25752)—Mr. Allen, 51 gs.
 Sorcerer, red and white, calved July 19, 1869, by Cherry Duke (25752)—Mr. T. Kingsley, 30 gs.
 Third Duke of Grafton, light roan, calved July 29, 1869, by 3rd Duke of Wharfedale (21619)—Lord Maclesfield, 48 gs.
 Second Cherry Duke, red, calved August 3, 1862, by 3rd Duke of Wharfedale (21619)—Mr. C. C. Dormer, 175 gs.
 Second Wharfedale Oxford, red and white, calved September 14, 1869, by 3rd Duke of Wharfedale (21619)—Mr. A. Garfit, 125 gs.
 Third Cherry Duke, red and white, calved September 16, 1869, by 3rd Duke of Wharfedale (21619)—Sir G. R. Philips, 200 gs.
 Second Duke of Wellington, red, calved October 2, 1869, by 3rd Duke of Wharfedale (21619)—Mr. John Thornton, for Mr. G. Paine, Essex, 180 gs.
 Fourth Cherry Duke, red and white, calved October 5, 1869, by 3rd Duke of Wharfedale (21619)—Mr. C. Bayes, 40 gs.
 Second King of Airdrie, red and white, calved November 4, 1869, by Cherry Duke (25752)—Mr. Edwards, 36 gs.
 Fourth Duke of Grafton, red, calved January 17, 1870, by 2nd Duke of Grafton (25968)—Mr. T. Comber, 175 gs.
 Red Rover, red, calved March 3, 1870, by Cherry Duke (25752)—Mr. Hill, 33 gs.
 Croesus, roan, calved March 8, 1870, by 11th Grand Duke (21849)—Mr. C. Sturgeon, 57 gs.
 Chieftain, red, calved May 13, 1870, by 11th Grand Duke (21849)—Mr. R. Paton, 49 gs.
 Julius, red, calved May 16, 1870, by Cherry Duke (25752)—Mr. Horwood, 36 gs.
 Count Palatine, red and white, calved May 28, 1870, by 11th Grand Duke (21849)—Mr. Harrison, 35 gs.
 Third Duke of Wellington, red, calved July 7, 1870, by 11th Grand Duke (21849)—Mr. T. Morris, 90 gs.
 Third King of Airdrie, red and white, calved October 30, by Cherry Duke (25752)—Mr. Armstrong, 31 gs.
 Grandee, red and white, calved February 24, 1871, by 11th Grand Duke (21849)—Mr. Treadwell, 23 gs.

EXTRA BULL CALVES.

Duke of Snowdon, red and white, calved June 17, 1869, by 11th Grand Duke (21849)—Mr. Swain, 39 gs.
 Jeweller, rich roan, calved March 13, 1871, by Cherry Duke (25752)—Mr. Chapman, 28 gs.
 Jasper, red, calved April 17, 1871, by Cherry Duke (25752)—Mr. Denchfield, 29 gs.

SUMMARY.

	Average.	Total.
33 Cows	£78 6 1	£2,584 1 0
21 Bulls	73 0 0	1,538 0 0
54	£76 4 10	£4,117 1 0

SALE OF A PORTION OF MR. MCINTOSH'S SHORTHORNS,

AT HAVERING PARK, ESSEX, ON WEDNESDAY,
 MAY 3, 1871.

BY MR. STRAFFORD.

The success which attended Mr. McIntosh's sale in 1867 was presumed by many to be the cause for this fixture, but we believe we are right in saying that Mr. McIntosh is about to lose the services of Mr. Boyd, who has had the management of the farm for many years. It was thus that high-bred stock came to be reduced by the sale of a few of the well descended animals of the Knightley blood, and of others bred at home in Essex. Some had been bred from dairy cows by the Duke bulls used in the herd, and certain lots were not fancied by the public, though those by the Third Duke of Geneva, an imported bull from America in 1867, and a fine handsome animal, fetched capital prices. Science, bred at Milcote, was a good cow, and went to Mr. Larking at 110 gs.; but Rarity, a very rich colour, and, if anything, thicker and better, only made 83 gs. The dam, an own sister, and an own brother to Lady Knightley 2nd, the first prize yearling heifer at Oxford, and sold to go to America for 500 gs., were in the sale, the dam, a really nice cow, with a good udder, going to Mr. Sturgeon for 51 gs. The own sister to the prize heifer, but not so much of a show animal, reached to the same price, and the own brother, a very young bull-calf, made 12 gs. Charmer 12th, bred by Mr. Pawlett, a thick good heifer, made 100 gs., and Charmer 14th out of Rarity 105 gs. The great attraction of the sale was the yearling Lady Bates 7th, a pure Bates heifer, save in the Buck cross, of the Barrington blood. Of a very beautiful roan colour, and full of hair, her merits in her box were keenly judged, and she showed out in the ring a much better animal than she even appeared in the house; put up at 300 gs., 500 was instantly bid, and then the competition went on spiritedly between Lord Feversham, the Earl of Bective, with some other biddings from the back of the rostrum, up to 810; Earl Bective's "five," however, got it amidst the cheers of the assembly. Mr. Larking was the opposition, and he must have consoled himself with the white Charmer calf by the same sire out of Science for 300 gs., another of the plums in the pudding. Many of the company then cleared away, and the bulls, most of which were calves, sold cheap, to an almost empty ring. The sale did not begin until nearly three o'clock, and went somewhat slowly throughout.

Lord Cawdor took the chair at the luncheon, where Mr. McIntosh said: The noble lord on his right (Lord Cawdor) possessed one of the finest and best managed estates, but did not profess to be a great Shorthorn breeder, but he was walking quietly into it. The nobleman on his left (Earl Dunmore) he considered to be rightly and truly a Shorthorn breeder, and he knew of no one who had collected so noble a herd in so short a time. If it were all true he read concerning the Dunmore steam plough it seemed as though he were going to prove himself the farmer's real friend by perfecting it, though they knew an invention was not perfected in a day. The steam plough, which would cost the sum of £800, was calculated to do the work for which they were now called upon to pay £1,500 or £1,600, and if it did anything like that he was certain the Dunmore steam plough would be the plough for his money. He (Mr. McIntosh) had one thing more to say—he had been offered that day, by a gentleman present, two thousand guineas for his

Shorthorn bull, but although perhaps some present would tell him he ought to accept it, and he felt bound to admit it was a handsome offer, he had reluctantly to decline it.

COWS AND HEIFERS.

Azalea, red and white, calved May 9, 1864; by Don Windsor.—Mr. Stilgoe, 36 gs.

Dahlia, red and white, calved May 30, 1864; by Don Windsor.—Mr. Tritton, 44 gs.

Princess, red and white, calved March 14, 1865; by 4th Grand Duke.—Mr. W. Sworder, 37 gs.

Dewdrop, roan, calved Feb. 1, 1866; by Prince of Saxe Coburg.—Mr. C. Sturgeon, 51 gs.

Rarity, rich roan, calved June 17, 1866; by Costa.—Mr. H. C. Pole Gell, 83 gs.

Cherry, red, calved April 19, 1866; by 4th Grand Duke.—Mr. C. Sturgeon, 26 gs.

Science, roan, calved April 2, 1866; by Chanter.—Mr. J. W. Larkin, 110 gs.

Waterloo Rose, roan, calved Dec. 19, 1866; by Royal Sovereign.—Mr. H. C. Pole Gell, 70 gs.

Daisy, roan, calved Jan. 2, 1867; by 4th Grand Duke.—Mr. Painter, 25 gs.

Beauty, red and white, calved April 2, 1867; by 4th Grand Duke.—Mr. Brett, 33 gs.

Lady Bird 5th, red and white, calved Feb. 20, 1867; by 4th Grand Duke.—Mr. A. P. Clear, 61 gs.

Lady Knightley, red and white, calved March 5, 1868; by Prince Albert.—Mr. J. W. Wilson, 81 gs.

Blossom, red, calved July 29, 1868; by 3rd Duke of Geneva.—Mr. Haycock, 40 gs.

Rosy, red and white, calved July 31, 1868; by 3rd Duke of Geneva.—Mr. W. Sworder, 27 gs.

Knightley, roan, calved June 4, 1868; by Emperor.—Major Stappilton, 31 gs.

Charmer 15th, roan, calved Nov. 27, 1868; by Baron Killerby (23364) or Fitz Killerby.—Major Stappilton, 100 gs.

Lily, white, calved October 24, 1868; by 3rd Duke of Geneva.—Mr. Armstrong, 24 gs.

Knightley 2nd, roan, calved February 18, 1869; by 3rd Duke of Geneva.—Mr. D. R. Scrutton, 61 gs.

Waterloo Rose 2nd, roan, calved May 6, 1869; by King Richard.—Mr. Pole Gell, 67 gs.

Cherry 2nd, roan, calved April 13, 1869; by 3rd Duke of Geneva.—Mr. W. Sworder, 37 gs.

Princess 2nd, roan, calved May 8, 1869; by 3rd Duke of Geneva.—Mr. W. Sworder, 26 gs.

Lady Bates 7th, rich roan, calved October 28, 1869; by 3rd Duke of Geneva, out of Lady Bates 5th, by Duke of Geneva.—Earl Bective, 815 gs.

Lady Knightley 4th, red and white, calved January 15, 1870; by 3rd Duke of Geneva.—Mr. Wilson, 51 gs.

Rose 2nd, red and white, calved January 8, 1870; by 3rd Duke of Geneva.—Mr. W. Sworder, 17 gs.

Knightley 3rd, roan, calved January 18, 1870; by 3rd Duke of Geneva.—Mr. G. Savill, 82 gs.

Charmer 14th, roan, calved January 30, 1870; by 3rd Duke of Geneva.—Mr. J. P. Foster, 105 gs.

Princess 3rd, red and white, calved April 1, 1870; by 3rd Duke of Geneva.—Mr. J. P. Foster, 105 gs.

Lady Bird 6th, rich roan, calved March 11, 1870; by 3rd Duke of Geneva.—Earl Danmore, 105 gs.

Knightley 4th, roan, calved October 24, 1870; by 3rd Duke of Geneva.—Major Stappilton, 52 gs.

Rosina, roan, calved April 11, 1870; by 3rd Duke of Geneva.—Mr. Rancoek, 24 gs.

Beauty 2nd, red and white, calved August 22, 1869; by 3rd Duke of Geneva.—Mr. Armstrong, 22 gs.

Charmer 16th, white, with roan ears, calved November 17, 1870; by 3rd Duke of Geneva.—Mr. J. W. Larkin, 200 gs.

Knightley 5th, red, calved December 14, 1870; by 3rd Duke of Geneva.—Mr. J. K. Fowler, 61 gs.

Cherry 3rd, red and white, calved October 26, 1870; by 3rd Duke of Geneva.—Mr. W. Sworder, 9 gs.

Walnut 2nd, white, calved January 23, 1871; by 3rd Duke of Geneva.—Mr. C. Howard, 26 gs.

Snowdrop, roan, calved March 23, 1871; by 3rd Duke of Geneva.—Mr. Wodehouse, 11 gs.

BULLS.

Fawley Duke, red and white, calved August 5, 1869; by 3rd Duke of Geneva.—Mr. A. M. Druce, 48 gs.

Fawley Duke 2nd, roan, calved December 4, 1870; by 3rd Duke of Geneva.—Mr. Armstrong, 36 gs.

Charmer's Duke, roan, calved Jan. 7, 1871; by 3rd Duke of Geneva.—Mr. W. Sworder, 40 gs.

Duke John, roan, calved March 17, 1871; by 3rd Duke of Geneva.—Mr. J. A. Mumford, 40 gs.

Duke of Argyle, white, calved March 26, 1871; by 3rd Duke of Geneva.—Mr. Armstrong, 12 gs.

Bull calf, roan, calved April 11, 1871; by 3rd Duke of Geneva.—Mr. T. Mace, 10 gs.

Bull calf, roan, calved April 18, 1871; by 3rd Duke of Geneva.—Mr. Wodehouse, 25 gs.

Bull calf, red and little white, calved April 19, 1871; by Wild Duke.—Mr. Mace, 14 gs.

Bull calf, roan, calved April 26, 1871; by 3rd Duke of Geneva.—Mr. Mace, 36 gs.

SUMMARY.

	Average.			Total.		
36 cows.....	£77	13	5	£23,796	3	0
9 bulls.....	30	9	0	274	1	0
45	68	4	6	£23,070	4	0

SALE OF THE LATE EARL OF AYLESFORD'S SHORTHORN HERD,

AT GREAT PACKINGTON, COVENTRY, ON TUESDAY,
MAY 9, 1871.

BY MR. STRAFFORD.

The number of good oxen and steers that have been year after year exhibited at Birmingham and Smithfield from Packington, especially the fine specimen that took the gold medals and cups in 1869, drew much attention to this herd, and the presence of several "Gwynnes" and "Knightleys" brought together not only a very numerous, but a fashionable company to the sale. The stock was not large, consisting only of 34 Shorthorns and a few dairy cows, but the prices realised were most satisfactory. It had been built up in about eleven years, and the foundation purchases were far from numerous. Some of the earlier ones went off at a draft sale in 1868; and the continual weeding the herd got by the annual autumn sales, made the present stock very select. The Knightley's were from Her Majesty's sale in 1867, and of the Alix tribe. The Gwynnes came from Mr. Hetherington in 1866, the Blanches from Mr. Sartoris in 1861; and Blushing Bride, a prize heifer, bought at a high price at the Bushey sale in 1862, had left ten descendants. Business, however, began soon after one o'clock, and there was ready competition and a brisk sale. The first in, a large fine cow with little, if any fashion in her pedigree, made 33 gs. Jenny Gwynne, the next lot, newly calved, looked thin and old, and seemed dear enough to Mr. Pritchard at 60 gs. Mr. Rowland Wood was not far behind when Alexandra, the dam of the gold medal steer, was brought in; her large good frame was more attractive than her only three crosses of blood, so he secured her at 40 gs. A pretty yearling heifer from her brought 50 gs., and rather a middling bull-calf 35 gs. Annie, granddaughter of old Alix, a level, round, little cow by the Prince of Saxe Coburg, made 82 gs., a larger sum than the public expected, and her daughter Victoria, by Ninth Grand Duke, very promising, went to Mr. T. Walker (the owner of her sire) at a 100 gs. The Blushing Brides, even with the fashionable crossing of Fourth Duke of Thorndale, and Ninth Grand Duke,

had not much hold on the public favour. Bridesmaid, a large flat-ribbed young cow, made only 60 gs. (to Mr. R. Wood), and Mr. Geo. Garne gave the same price for her two-year-old heifer, whilst her yearling seemed dear at 69 gs., and also a white heifer calf at 36 gs. These having the Fourth Duke of Thorndale cross were more in repute than those with the Ninth Grand Duke, which were not quite so good looking. The young Gwynne cows were, however, the great favourites. Christmas Gwynne 2nd, a broad, square, plain coloured animal, heavy in-calf, seemed high at 135 gs.; but Polly Gwynne 3rd, by the same sire (Duke of Cumberland), and lately calved, made 205 gs. Duchess Gwynne, daughter of Jenny Gwynne by Ninth Grand Duke, also full of calf, went for 235 gs., after being put up by Mr. Foster at 200 gs.; and her yearling heifer, very square and pretty, was bought for the Earl of Beective at 260 gs. Lady Gwynne, with a jet-black nose, and Sally Gwynne, twin to a bull, made lower prices; and two very small but nice-coloured calves sold for 50 gs. and 51 gs. each. Princess Adelaide, a very fine and pretty-coloured calf of the Blanche tribe, was put up at 100 gs., and Mr. Gibson covered it with five; but Mr. T. Walker's "fifty" was an effectual method of stopping the "fives." Albion, a Knightley bull, bred at Windsor, an even, good-looking animal, made but a trifle over beef price. Duke of Cambridge, who had been in use, did not seem very dear at 82 gs.; but Lord Collingham at 300 gs. did sound somewhat high. Possessing a good deal of style and character, he had fine hind-quarters, but not that broad top and roundness of barrel so often desired. The biddings were numerous and quick, and he was finally bought, after competition from Mr. Curtler, for Mr. Angerstein. The dairy cows sold after the sale went equally high, resulting in a very capital sale.

The flock of Shropshires will be sold in September.

SUMMARY.

80 cows averaged	£79 7s. 7d.	£2,381 8s.
4 bulls „	£121 16s. 0d.	487 4s.
34 „	£84 7s. 5d.	£2,868 12s.

SALE OF SHORTHORNS AT NORTHILL.—

This herd, belonging to Mr. W. Burton, was sold by Mr. Strafford, on the 10th of May, but no high prices were obtained. Most of the animals were descended from stock purchased of Mr. J. Topham, and crossed with bulls bred in the herd. Lot 1, Countess of Airdrie, at 32 gs. went to Mr. Cranfield, who bought many of the lots. Splendour 15th sold for 29 gs., Splendour 16th made 38 gs., and Splendour 17th fetched the top price, 40 gs. Mr. C. Bayes gave 30 gs. for Julia; several of the heifer calves in nice order sold well, and the average of the 31 cows and heifers was nearly £26. Pyramus (27223), the bull in use, went to Mr. Smith for 35 gs., and some young calves pulled down the average of the seven bulls to a little over £16.

SALE OF MR. PEEL'S SHORTHORNS.

AT WHITEWELL, ON WEDNESDAY, APRIL 26, 1871.

BY MR. THORNTON.

The sale of the herds belonging to Mr. Jonathan Peel, of Knowlmere Manor, and Mr. Eastwood, of Thorney Holme, took place at the Hotel, Whitewell, "delightfully situated in the forest of Bolland and valley of the Hodder, but rather

inconveniently for the railway-traveller, Clitheroe, ten miles distant, and Lancaster fourteen, being the nearest points." Although not such a numerous company attended, yet the prices realised were extraordinary, and resulted in two of the highest averages for the year; indeed, the £181 8s. 9d. per head obtained for Mr. Eastwood's fifteen is, we believe, the highest ever reached for an entire herd brought before the public in the customary sale-ring on Nature's carpet.

The animals were on view in the stables and buildings belonging to the hotel, and the strikingly even and blooming character of Mr. Eastwood's cattle contrasted strongly against the obese state of many of those belonging to Mr. Jonathan Peel; and this high state of condition, coupled with the absence of calves, only strengthened the public belief that they were not in such a regular breeding state as they might have been. Mr. Peel's herd was mainly descended from the cow Bridget, bred by Mr. Booth, of Warlaby, from the Bliss tribe. This cow, with a couple of others, had been sold to Mr. Bolden for exportation to Australia about twenty years ago, during the time of the gold discovery; but the rush of emigrants raised the shipping prices for cattle to an extreme rate, and Mr. Bolden retained them. One of the cows produced only bulls, another bred one or two heifers, and the third, Bridget, was more fruitful when crossed with the Grand Dukes of Bates blood. Mr. Peel purchased the entire tribe from Mr. Bolden, and returned to the original blood by hiring bulls from Warlaby; but latterly he has used bulls of his own breeding. There were a few animals bred from Mr. John Booth's Mistress May, and these were entirely of Booth blood. It was very evident that the public looked with more favour on the uncrossed animals. In introducing the sale Mr. Thornton said that an attempt had been made during last autumn to dispose of the herd privately, but the prevalence of bulls, and the doubtful character of one or two of the lots deterred the purchase outright, though many offers had been made. It was then resolved to sell them publicly. The opportunity being so good, Mr. Eastwood, whose health has been declining for some time past, also resolved to dispose of his small herd. Mr. Peel's herd was consequently offered first. The good sale of Mr. Wood's herd last week had strengthened the opinion that high prices would be realised, but the public certainly did not anticipate the extraordinary results which followed. Boundless the first cow, ten years old, had not bred for a year, and the biddings rose by slow guineas until Mr. Torr's 53 secured her for the Aylesby herd. Balmful was disgraced by an enormous accumulation of fat on her hind quarters; this and her age no doubt went against the price, and her purchase at 66 guineas was as cheap as any. Marion, a magnificent cow, and probably the best on ground, with five crosses of the best Warlaby and Killerby bulls, went from 100 to 300 gs. in a short time, and Mr. Chandos Pole Gell's "and five" stopped Mr. Staniforth and several other bidders. Basilisk, a fine roan cow, was closer bred to the Booth blood, and sold well. Bride of the Mere went only at a speculative price, as she had not bred, nor did she appear likely. Balustrade and Banter, by different sires, were both from the same dam, who was by Mr. Booth's Sir James. The latter had lost her hair, and looked somewhat out of order; still both of them were breeders, and made good prices; but Banana and Bribery, being white and doubtful, went lower. Brigantine, a magnificent three-year-old heifer, was one of the best-bred of the B tribe, as she had no direct Bates cross, and her great-grand-dam was the celebrated cow Bridesake by Crown Prince. There was great competition for her, and it finally settled down between Mr. Staniforth and Mr. E. J. Smith, a young and highly-successful breeder from the County Limerick, Ireland. He finally purchased her at 350 gs., and high as the price may seem, it was undoubtedly one of the best investments of the day. This figure helped Marionette, a lovely roan heifer; the biddings for her were very numerous, but Mr. Beattie, of Newbie House, Annan, was not to be shaken off, and his quiet node finally got her at 400 gs. Cheers, which had been before given for Ireland, were then given for Scotland, and they were again re-echoed for Wales when Mr. Pugh purchased the thick yearling Marchioness for 300 gs. As Marigold's last calf was unfit to offer, this concluded the sale of the cows, at an average of £196 15s. 9d. for the 12 head.

The bulls, although a good lot, were chiefly white, and from some unapparent cause the biddings were very languid. Knight of Knowlmere, in his eighth year and very fat, went at a few

guineas over market value, and the crippled state of the magnificent Lord Lyons, rendered him a cheap purchase to Sir Tatton Sykes at 54 gs. One of the best calves was Sir Hildebrand, and in good training might come out prominently at the Royal and local shows. He went remarkably cheap to Mr. Pugh for 105 gs.

COWS AND HEIFERS.

Boundless.—Mr. Torr, Aylesby, 53 gs.
Balmful.—Mr. H. Aylmer, West Dereham, 66 gs.
Marian.—Mr. H. C. Pole Gell, Wirksworth, 205 gs.
Basiliak.—Rev. T. Staniforth, Stours, 190 gs.
Bride of the Mera.—Mr. W. S. Woodroffe, Normanton, 60 gs.
Balustrade.—Mr. J. Gordon, Cluny Castle, 210 gs.
Banter.—Mr. H. Aylmer, 200 gs.
Bribery.—Mr. W. Fox, St. Bees Abbey, 125 gs.
Banana.—D. Pugh, Llandilo, 90 gs.
Brigantienne.—Mr. E. J. Smith, Llanmore, Ireland, 350 gs.
Marionette.—Mr. J. Beattie, Newbie, Scotland, 400 gs.
Marchioness.—Mr. D. Pugh, Wales, 300 gs.
Margold.—III; not offered.

BULLS.

Knight of Knowlmere (29055).—Mr. R. Blackwell, Tanaley, 52 gs.
Lord Lyons (26677).—Sir Tatton Sykes, Sledmere, 54 gs.
Lord Abbot.—Messrs. Little and Martin, Ely, 63 gs.
Duke of Albemarle.—Mr. D. Pugh, Llandilo, 80 gs.
Sir Bertram.—Mr. H. Baines, Australia, 50 gs.
Sir Hildebrand.—Mr. D. Pugh, 105 gs.
Germanicus.—Capt. C. Patrick, Burnley, 33 gs.

	£	s.	d.		£	s.	d.
12 Cows averaged	196	15	9	.....	2,361	9	0
7 Bulls "	65	11	0	.....	458	17	0
19 "	148	8	9	.....	2,320	6	0

SALE OF MR. EASTWOOD'S SHORTHORNS.

It was generally considered by the company that Mr. Eastwood's herd would average better than Mr. Peel's, as they were a very even lot, and brought out in the most blooming condition. These expectations seemed half realised when the two first lots, both bought at the Towneley sale in 1864, made 195 gs. and 340 gs. respectively. Mr. H. D. De Vitre took Double Butterfly, the first cow, a very fine animal and an excellent breeder, at 195 gs.; and he seemed determined to possess Duchess of Towneley, not quite so elegant as lot 1, as he bid from 100 gs. to 335 gs. for her, but Culshaw's "forty" for Col. Towneley was the last bid. Phoebe Butterfly, a daughter of lot 1, with a very beautiful head and deep red colour, although a most useful lot and a capital breeder, did not excite so much competition, and was, in Mr. Eastwood's opinion, the cheapest lot of the day. Good as the white Rosettes were, the competition seemed all to run for the Butterfly blood, and, considering their very great excellence and showyard fame sold badly. Mr. De Vitre took the heifer at 105 gs., and Mr. Godman got a very handsome cow in Rosette 5th at 80 gs. Double Butterfly 2nd, a prize heifer at the Royal and Yorkshire Shows, did not bring her last calf to maturity, and her recent service threw a little doubt upon her breeding. Mr. Outhwaite bid, however, strongly against Messrs. Hampton and Van Meter, of Kentucky, for her, and finally got her for Mr. R. Gibson, of U. S. A., who was present. Red Butterfly, also a noted prize heifer, was nearly down calving, and by many thought to be the better of the two. The Americans bid keenly for her, and when they had done, the Rev. Mr. Graham took the bidding up against John Richardson, who was acting for Sir Curtis Lampson, and who finally got her at 400 gs. He also got a lovely heifer in Double Butterfly 3rd at 205 gs. The white heifer Birthday, at 155 gs., (Mr. De Vitre), out of Duchess of Towneley, seemed a cheap lot in comparison with her dam, as she might win a good many local honours. Christmas Butterfly, a very lovely calf, somewhat harsh in her hair, was very attractive. Keen was the competition, and Mr. Lamb, a young breeder from Cumberland, bid very spiritedly against Mr. Graham for her. The Americans took the last lot of heifers, a thick good red twelve month's calf

by Col. Towneley's Baron Oxford, at 78 gs. The biddings for the bulls, like those upon Mr. Peel's, were very heavy. The first one, a fine red two-year-old, by Baron Oxford, out of lot 2, with somewhat upright shoulders, went to Lord Sudeley, and the next lot, a handsome roan of great substance and quality, and short legged, went very cheap to Mr. White, of Australia. The last calf was thin, but exceedingly well bred, and with good management may come out a very cheap lot for Mr. Taylor at 75 gs. This concluded the business of the day.

COWS AND HEIFERS.

Double Butterfly.—H. D. De Vitre, Wantage, 195 gs.
Duchess of Towneley.—Colonel Towneley, 340 gs.
Phoebe Butterfly.—Mr. W. Fox, 185 gs.
Rosette 4th.—Mr. T. Messenger, Wighton, 63 gs.
Rosette 5th.—Mr. W. Godman, Aberdeen, 80 gs.
Double Butterfly 2nd.—Mr. R. Gibson, U. S. A., 325 gs.
Red Butterfly.—Sir C. M. Lampson, Sussex, 400 gs.
Rosette 6th.—Mr. H. D. De Vitre, 105 gs.
Double Butterfly 3rd.—Sir C. M. Lampson, 205 gs.
Birthday.—Mr. H. D. De Vitre, 155 gs.
Christmas Butterfly.—Rev. P. Graham, Turncroft, Lancashire, 180 gs.
Lady Spencer 2nd.—S. Hampton and Co., United States of America, 78 gs.

BULLS.

Baron Butterfly (25557), October 1, 1868, by Baron Oxford (33375).—Lord Sudeley, Gloucestershire, 130 gs.
Phœbus Butterfly, November 7, 1869, by Victorious (25378).—Mr. J. White, Australia, 76 gs.
Red Duke.—Rev. E. Taylor, Whalley, Lancashire, 75 gs.

12 Cows averaged	£202 4s. 3d.	.....	£2,426 11 0
3 Bulls averaged	£98 7s. 0d.	.....	295 1 0
15 Averaged.....	£181 8s. 9d.	.....	£2,721 12 0

SALE OF A PORTION OF MR. ROBERT JEFFERSON'S HERD,

AT PRESTON HOWS, WHITEHAVEN, ON FRIDAY, APRIL 28th, 1871.

BY MR. THORNTON.

Mr. Robert Jefferson, and his brother Mr. Skelton, have been for years past well known in Cumberland for their Shorthorns, their Leicester, and their poultry. All have been prize-takers at the county and local shows, and as Mr. Skelton devotes most of his time to the poultry and sheep, so Mr. Robert attends to the shorthorns. He started at one of the first Holker sales, and since then he has been a frequent visitor at the ring-side, and very often a capital customer. As he remarked at the lunch, over which Mr. Booth presided, he had no father to hand him down a herd: he had gone about seeking the best he could find, and in the end found that dear-bought experience, like a high-priced shorthorn, was often the best. He had hired no less than seven bulls from Waraby, and many of the lots in the sale were by a Booth bull. The fine old prize cow Hollybush opened the business; she bred the bull First Fiddle, who went to Ireland, where he got Bolivar, and played the Irishmen such a tune that they had not readily forgot. She fetched 45 gs. from Mr. J. C. Bowstead. The chief attraction of the sale was the two-year-old heifers, which comprised all Mr. Jefferson had bred in 1869, and which sold well. Britain's Queen, a red and newly-calved heifer, fetched 77 gs. (J. Gunson); and her calf, a beautiful roan heifer by Knight of the Shire, went to Mr. E. J. Smith, of Ireland, for 26 gs. The best lot of the sale was a very thick-fleshed prize heifer called Sonsie Dame. Put up at 50 she went merrily along to 150, and then Mr. E. J. Smith and Mr. Marsden closed, the latter getting her at 225 gs. Her own sister, Sonsie Bud, three years old, and lower in condition, went very cheap to Mr. J. Stirling, at 72 gs. Charming Nell, a Gwynne heifer, by Mr. Booth's King Charming, also excited keen competition, and Mr. E. J. Smith finally se-

cured her at 165 gs. Her dam, Christmas Gwynne, was also in the sale, and Mr. Hetherington got her at 90 gs. Mr. Smith also bought Dainty Dame, at 57 gs., and Mr. Fair gave 51 gs. for a very nice specimen of the old Pearl tribe. Two or three yearlings concluded the sale of the cows and heifers, and the thirty-five averaged within a couple of shillings of £50 each. The eighteen bulls were a very useful thick-fleshed lot, though none made very high prices, yet the average was good. Lot 41, Jupiter, a handsome roan, fetched the top price, 57 gs., from Mr. Hicks, to go to Germany. Farmer Blithe was also an attractive good young bull, and went for 52 gs. to Mr. Rawlinson, two or three of the rest made 40 gs. a piece, and one or two plain calves went cheap—the 18 averaging £31 14s. 8d., or a general average of £49 13s. 3d. for the 53 head. At the finish of the sale Mr. Thornton remarked that Mr. Jefferson's sale concluded the spring sales of the north. In eight days five herds had been brought before the public; not one animal had been passed without a bid, and upwards of 180 had been sold for £12,500, averaging close upon £70 each.

SALE OF MR. CHRISTY'S SHORTHORN HERD,

AT BOYNTON HALL, CHELMSFORD, ON THURSDAY,
MAY 4TH, 1871.

BY MR. THORNTON.

Mr. Christy stands as one of the leading farmers in his own county. He rents very largely under Lord Petre, and has brought into operation all those implements and recent improvements for high farming which have of late years been invented. Knowing that high farming cannot go on without high feeding or breeding of some kind or another, he went on from a pedigree bull to a few pure-bred heifers, and so by degrees got up a large herd. He always bought a pretty good-looking one, be it of whatever kind of pedigree, but he never went into breeding as a fancy thing, but simply because he thought it would pay. As he remarked when Mr. Clayden proposed his health at the luncheon, "being obliged to buy a good many cattle from year to year for fattening purposes, I have always found that a good-bred animal fattened much better than a poor-bred one, and that has led me to make the best possible choice, selecting animals that were not only well fleshed, but cows which were good milkers. The preface to the catalogue stated, "the herd was originally started with some north country stock which Mr. Bramston brought into the county;" and that "the Essex county meetings are the only shows where the animals have been exhibited, except on two occasions when Duke of Grafton was shown at the Leicester Royal in 1868, and Duke of Babraham at the Oxford Royal last year, where he obtained a high commendation and the reserve place." The business commenced a few minutes before two, when a few of the older cows went cheap. Those of the P. family, from which Mr. Christy had reared his best prize winners, were fairly good animals. Primula's Rose, a fine cow, full of calf, made 42 gs. from Mr. D. A. Green, of Colchester, who bought several lots. Poly Rose, somewhat doubtful, made 50 gs.; and Pretty Rose, Mr. Barnard took at 51 gs. German Aster, from Mr. Langston's stock, was a most excellent breeder, but having calved before her time was not offered. Her first heifer, French Aster, a prize winner as a yearling at the Essex show last year, went to Mr. Pibus, for abroad, at 160 gs. Her second, rising two-years-old, was bought by the same customer for 145 gs., and Mr. Tippler gave 105 gs. for her 11 months calf. Portalacca, out of the old prize cow Primula, made the top

price, Mr. Pibus giving the high sum of 270 gs. Mr. Collard took several very good heifers into Kent, and many of the calves made good prices. The bulls sold fairly. Duke of Babraham, somewhat heavy, fetched only 52 gs., and Mr. Sturgeon gave 75 gs. for Rosolio, the first prize bull at the Essex show last year. The younger calves sold well, resulting in an average of £33 15s. 6d. for the twelve bulls, the fifty-five cows making £42 10s. each. This was a very encouraging result, considering that the herd had been established at no great expense.

COWS AND HEIFERS.

Rosewater, roan, calved March 5, 1862; by Comedian.—Mr. Hall, 37 gs.
Myrtleberry (and calf), roan, calved April 21, 1863; by Comedian.—Mr. Green, 43 gs.
Babraham Duchess, roan, calved May 1, 1863; by Guelder Rose.—Mr. C. A. Barnes, 30 gs.
White Dove, white, calved December 9, 1863; by Tragedian.—Mr. Kemble, 24 gs.
Fieldfare, roan, calved December 14, 1863; by Tragedian.—Mr. Turpin, 26 gs.
German Aster, red, calved February 10, 1864; by Royal Arch.—Not offered.
Charmer (and calf), red, calved September 11, 1864; by Oxford 2nd.—Mr. D. Christy, 33 gs.
Rattle, roan, calved October 29, 1864; by Sensation.—Lord Raleigh, 27 gs.
Primula's Rose, roan, calved November 7, 1864; by Guelder Rose.—Mr. Green, 42 gs.
Poly Rose, roan, calved April 4, 1865; by Guelder Rose.—Mr. J. Jenkins, 50 gs.
Rebecca, roan, calved May 7, 1865; by Tragedian.—Mr. J. A. Piggot, 34 gs.
Zeta, roan, calved August 15, 1865; by Tragedian.—Mr. H. Stone, 27 gs.
Patchouli 4th, red roan, calved June 7, 1866; by Duke of Grafton.—Mr. W. Tippler, 40 gs.
Duchess of Babraham 2nd (and calf), red, calved October 16, 1866; by Duke of Grafton.—Mr. C. A. Barnes, 58 gs.
Fair Lady, roan, calved October 28, 1866; by Duke of Grafton.—Mr. Green, 41 gs.
Philippa, roan, calved February 3, 1867; by Thorndon.—Mr. Brown, 27 gs.
Random, white, calved February 28, 1867; by Thorndon.—Mr. Crush, 26 gs.
Regia, roan, calved June 25, 1867; by Duke of Grafton.—Mr. Newman, 25 gs.
Regina, red, calved June 25, 1867; by Duke of Grafton.—Mr. Piggot, 30 gs.
Zela, red, calved September 15, 1867; by Cherry King.—Mr. Poole, 31 gs.
Pretty Rose, red, calved February 20, 1868; by Duke of Grafton.—Mr. C. Barnard, 51 gs.
Gentle Lady, roan, calved May 5, 1868; by Cherry King.—Mr. Armstrong, 28 gs.
French Aster, red, calved June 20, 1868; by Duke of Grafton.—Mr. Pibus, 160 gs.
Roseleaf, red and a little white, calved September 8, 1868; by Duke of Grafton.—Mr. Tippler, 91 gs.
Matilda, roan, calved November 19, 1868; by Duke of Grafton.—Mr. Collard, 26 gs.
Miss Aster, red, calved November 30, 1868; by Duke of Grafton.—Mr. H. Stone, 39 gs.
Lady Louisa, red, calved February 8, 1869; by Duke of Grafton.—Mr. Collard, 34 gs.
Rhoda, red, calved February 14, 1869; by Duke of Grafton.—Mr. Armstrong, 40 gs.
Zantippe, roan, calved March 9, 1869; by Duke of Grafton.—Mr. Downett, 22 gs.
Zenobia, red, calved March 14, 1869; by Mandarin.—Mr. J. Bewers, 19 gs.
Royalty, red roan, calved March 21, 1869; by Mandarin.—Mr. C. Collard, 28 gs.
Goblet, red, calved March 23, 1869; by Mandarin.—Mr. Collard, 28 gs.
Patchouli 5th, red, calved April 6, 1869; by Mandarin.—Mr. C. Collard, 31 gs.

Reckless, red and white, calved May 18, 1869; by Mandarin.
Mr. Collard, 26 gs.
Rosemary, red, calved May 18, 1869; by Mandarin.—Mr.
Armstrong, 30 gs.
Philomel, roan, calved June 2, 1869; by Mandarin.—Mr. W.
Bott, 25 gs.
Patchouli 6th, red roan, calved June 21, 1869; by Duke of
Grafton.—Mr. Collard, 42 gs.
Anemone, red and little white, calved June 27, 1869; by Duke
of Grafton.—Mr. H. Pibus, 145 gs.
Portalacca, red, calved August 27, 1869; by Duke of Grafton.
—Mr. H. Pibus, 270 gs.
Miss Lorne, red, calved December 26, 1869; by Duke of
Grafton.—Mr. Greene 27 gs.
Poppy, roan, calved January 4, 1870; by Duke of Grafton.—
Mr. C. Barnard, 36 gs.
Furbelow, roan, calved March 8, 1870; by Duke of Grafton.—
Lord Raleigh, 20 gs.
Patchouli 7th, roan, calved February 18, 1870; by Mandarin.
—Mr. Collard, 31 gs.
Rusticia, red, calved May 10, 1870; by Mandarin.—Mr. Chas.
Sturgeon, 26 gs.
Phillis, roan, calved June 30, 1870; by Field Marshal.—Mr.
C. Collard, 26 gs.
Posy, roan, calved June 23, 1870; by Duke of Grafton.—Mr.
Collard, 36 gs.
Clochette, red, calved June 25, 1870; by Duke of Grafton.—
Mr. Tippler, 105 gs.
Rosanna, roan, calved July 22, 1870; by Duke of Grafton.—
Mr. T. Mashiter, 17 gs.
Pearl, red, calved October 16, 1870; by Duke of Babraham.
Mr. Kingworth, 9 gs.
Camellia, red, calved October 19, 1870; by Duke of Grafton.
—Mr. Armstrong, 18 gs.
Zinnia, roan, calved November 11; by Duke of Babraham.—
Mr. H. Stone, 15 gs.
Gentle Lass, roan, calved November 23, 1870; by Duke of
Babraham.—Mr. T. Kingworth, 20 gs.
Pussy, red and white, calved December 10, 1870; by Manda-
rin.—Mr. Chalcraft, 17 gs.
Azalea, red, calved January 18, 1871; by Duke of Babraham.
—Mr. J. Clayden, 17 gs.
Rosy Red, red, calved February 14, 1871; by Duke of Babra-
ham.—Mr. Belcher, 14 gs.
Zealous, roan, calved March 3, 1871; by Duke of Babraham.
Mr. Belcher, 8 gs.

BULLS.

Duke of Babraham (25934), red, calved September 5, 1867;
by Duke of Grafton.—Mr. Tippler, 52 gs.
Financier, rich roan, calved March 27, 1869; by Mandarin.
—Mr. Lynn, 30 gs.
Lord of Babraham, rich roan, calved May 11, 1869; by Duke
of Grafton.—Mr. Crush, 39 gs.
Maximilian, red and white, calved May 31, 1869; by Duke of
Grafton.—Mr. Sturgeon, 37 gs.
Rosolio, rich roan, calved July 25, 1869; by Duke of Grafton.
—Mr. Sturgeon, 75 gs.
Perkins, red and white, calved January 8, 1870; by Duke of
Grafton.—Mr. Cobb, 27 gs.
General Prim, red, calved February 14, 1870; by Duke of
Grafton.—Mr. A. P. Clear, 28 gs.
Earl of Clarendon, red, calved March 28, 1870; by Duke of
Grafton.—Mr. Bowers, 27 gs.
Crown Prince, red, calved November 29, 1870; by Duke of
Babraham.—Mr. D. Christy, 23 gs.
Bismarck, red roan, calved January 17, 1871; by Mandarin.
Mr. Alger, 20 gs.
Fritz, red and a little white, calved February 2, 1871; by
Mandarin.—Mr. Cousins, 9 gs.
Republican, red, calved February 9, 1871; by Duke of Babra-
ham.—Mr. Nichols, 19 gs.

SUMMARY.

	Average.			Total.		
55 cows	...	£42	10 0	...	£2,337	6 0
12 bulls	...	£33	15 6	...	£405	6 0
67	...	£40	18 8	...	£2,742	12 0

SALE OF MR. ROBERT SEARSON'S SHORTHORNS,

AT CRANMORE, MARKET DEEPING, ON THURSDAY,
MAY 11TH.

BY MR. JOHN THORNTON.

Mr. Searson has been known as a prize-taker, not only at Peterborough and the neighbouring county Shows, but also at the Smithfield Club and Birmingham Meetings. The herd has been carefully bred for the last thirty years, and but few of them approached a light colour, the majority being dark roan or red. The majority of the pedigrees traced to two cows, Dorcas and Priscilla, both bred by Mr. Dudding, of Panton, and others from Earl Brownlow's, Mr. Dixon's, and Mr. Walesby's herds. Some of the earlier sires were purchased at Panton, but of late years Mr. Foljambe's Falstaff (21720), Counterpart (21493) by Mr. Torr's Ringleader, and three bulls from the herd of Mr. Cruickshank, of Sittytton, Aberdeen, have been in service. Fifteen years back Mr. Searson was very successful at the Oakham and local Shows, and last year he took £150 in prizes at the Lincolnshire, Oakham, and Northamptonshire Meetings. A young steer from Pretty Maid, one of the lots offered for sale, was sold at sixteen months old for £28, his dead weight being 53 stone (14 lbs.); and the white steer, winner at the last Smithfield and Birmingham Club Shows, was sold to the butcher, three years and a few days old, for £60. Mr. Searson appears to have followed the example of other good breeders, of getting the best cows he could, and judiciously breeding and selecting from them, without going from breeder to breeder, or trusting entirely to pedigree. The sale opened with the in-calf cows, for all of which good prices were made, the top figure being 80 guineas, for the winner of the first prize at the Oakham Show in 1869—Sweet Rose, by Chieftain (21421). Dairy Girl, by Cock of the Walk (15782), was sold for 56 guineas to Mr. Rowland Wood, of Clapton. The next in order was Winter Rose, a prize in-calf cow by Duke of Devonshire (21588), purchased by Mr. Pears, of Hackthorne, for 66 guineas. The average price of these was from 35 to 40 guineas. Many cows had calves at foot, which were sold immediately after their dams. Among the in-calf heifers, Mr. George Vergette, jun., of Borough Fen, was a purchaser of Comely, a red heifer by Falstaff (21720), for 34 guineas; while Mr. Rowland Wood secured Buttercup, a red heifer, in calf by Lord Paramount, for 27 guineas. The highest figure was given for Nina, roan heifer by Falstaff, in calf by Counterpart, bought by Mr. William Holland, of Deeping, for 56 guineas. Tiny, red and white, also by Falstaff, was sold to Mr. Walton for the Marquis of Exeter for 52 guineas, and the remainder averaged about 30 guineas. Among the heifers not in calf some high prices were given, the Marquis of Exeter taking the lead with the Princess Maud, a roan, by Duke of Devonshire, which was knocked down to him for 62 guineas. Here again Mr. Wood was a purchaser giving 42 guineas for Sweetmeat, by Duke of Devonshire. Another red heifer, Wood-Rose, by Falstaff, also fetched a high price, being knocked down to Mr. Burchall for 47 guineas. Mr. Sheffield, who attended for Sir de Capell Brooke, purchased several heifers, but with the exception of the prices given above, the biddings averaged 25 guineas per head. The last on the list were the bulls, but many of them being calves were sold, as before stated, immediately after the dams. Lord Paramount, by Falstaff, reached the highest sum, 55 guineas, to Mr. Pank, of Orney. There were in all sixteen bulls sold, Lord Chatham (26625), a red bull by Lord Byron (24868), following close in the wake of Lord

Paramount, being sold to Mr. West for 54 guineas; 85 guineas was reached for Sweet William, and 89 guineas each for Counterpart (31493), by Ringleader (15164), and Wigtoft, by Cambridge Duke 4th (25706). The remainder of the herd of bulls made from 10 guineas to 27 guineas inclusive, Mr. Hack, of Portland, purchasing Canute, a red bull by Lord Chatham, for 20 guineas. There were in all seventy-two lots offered for sale, the proceeds of which amounted to £3,513 18s., giving an average of about £3 5s. guineas per head.

SALE OF THE LATE LORD WALSHINGHAM'S HERD OF SHORTHORNS,

AT MERTON, NORFOLK, ON THURSDAY, MAY 18TH.

BY MR. J. THORNTON.

This sale, announced for a considerable time, had created a good deal of interest throughout the county, not only from the character of the stock, but from the esteem and respect in which the late Lord Walsingham was held. By noon more than a thousand persons were present, and when the sale took place it was reckoned that fully fifteen hundred were gathered round the ring. The name of Merton is, however, better known in connection with the flock of Southdowns; still, the herd of Shorthorns successfully shown at the county shows had been gradually collected and bred during the last five-and-twenty years. No really attractive blood, however, had been introduced until a few good animals of the J. Cowling's Cherry and Lady Sarah tribes were purchased at Mr. Fawkes' and Mr. Banks Stanhope's sales in 1862; but even these well-bred animals did not, in the absence of fashionable crosses, excite much competition. Lord Loral, a bull of Booth and Foggathorpe blood, was bought of Mr. Sanday; Prince Rupert, Bates and Knightley, was from Mr. Stanhope; then two or three home-bred animals were used, and followed by Baron Windsor from Osberton. Finally joint purchases and hiring of bulls of Booth blood were made with Mr. How of Broughton; so that a few of the better calves were by Lord Blitha, the brother of the prize cow Lady Fragrant, and they sold very high. The cows were shown in excellent condition on the grass; the heifers, bulls, and calves were in the houses, and from time to time led out. The arrangements were very good. Two capacious tents accommodated about 500 to lunch, whilst the ring, well formed and of good size, was set round with a number of waggons, beside which raised stands were placed, giving a large number the opportunity of either sitting or standing, and enabling every one to see comfortably without overcrowding. The chair at the hunch was taken by Mr. Barton, supported by Sir E. Kerrison, Sir W. Bagge, M.P., and Mr. Roade, M.P., but there was an absence of the Shorthorn fraternity one had expected to find here.

Mr. Thornton began the business of the day shortly before two o'clock. The cows sold well; the presence of a good continental order giving a flip to the sale; and five good young cows, a bull, and four calves were bought to go to Hanover and Germany. The first cow, although a little lame, was a capital specimen, and went for 45 gu. to Lord Chesham, who also bought several other lots. Some of the Lenton Lancasters were not attractive. Minie, a sweet-looking cow, of fine quality, made but 40 gu.; but her two heifers were by far the best in the sale, Cannondale, making the highest price, 80 gu., and going to Mr. Hugh Aylmer, whilst Oxford Belle, an in-calf roan heifer of great substance and quality, went to Mr. White, of Australia, for 75 gu. The

J.'s were not in extra demand, and the first cow, Janey, was considered the best. She was bought for Mr. Finlay Dun, Sir George Philip's agent, at 57 gu.; her half-sister, Janina, going to the same destination at 63 gu., as well as Janydale, a fine-backed, large heifer. Rev. J. Micklethwaite bought a very fine cow of Mr. Gamble's breeding in Signora, at 58 gu., as well as her calf at 80 gu. Mr. Kingsnorth took several good animals into Kent, and Mr. Allen some into Leicester, but very few remain in the county. Rosedale, a handsome roan heifer, dam of two excellent calves, went very cheap at 63 gu. for Australia. Mr. Cole Ambrose, Ely, and Mr. C. Saunders, were buyers in the neighbourhood. The calves ranged from 16 to 26 gu., and were very promising.

The bulls, as a lot, were thick-fleeced; but, like many of the cows, of rather a plain red-and-white colour. Earl of Oxford, a good roan, fetched 66 gu., and goes into Kent; Mr. J. Wellingham, of Lynn, gave 40 gu. for Oxford Royal, and the last calf went to Germany at 25 gu. Mr. Simpson sold a few well-bred colts, which made about £35 a-piece. The proceedings were all over shortly after four o'clock. The weather, although cold, was bright and cheerful, and the company separated, most of them to meet again on the 29th of June, when the Southdown flock will be dispersed.

COWS AND HEIFERS.

Danthes, 45 gu.—Lord Chesham.
Manchester Lass, 35 gu.—Col. Ambrose.
Minie, 40 gu.—Mr. C. Bayes.
Jany, 57 gu.—Sir G. R. Philips.
Lady Ansell, 35 gu.—Mr. T. Allen.
Janina, 63 gu.—Sir G. R. Philips.
Dana, 57 gu.—Mr. T. Kingsnorth.
Signora, 58 gu.—Rev. J. Micklethwaite.
Frolic, 35 gu.—Mr. G. Jacobs.
Jocunda, 45 gu.—Mr. E. Bottcher.
Heebe, 40 gu.—Sir G. R. Philips.
Windsor Lass, 40 gu.—Mr. T. Allen.
Lady Adelaide, 57 gu.—Mr. E. Bottcher.
Swallow Tail, 40 gu.—Mr. T. Allen.
Jacinth.—Not offered.
Rosedale, 62 gu.—Dr. Jenkins.
Cannondale, 80 gu.—Mr. H. Aylmer.
Janydale, 61 gu.—Sir G. R. Philips.
Maid of Balford, 35 gu.—Mr. W. How.
Janina 2nd, 41 gu.—Mr. E. Bottcher.
Ann Page, 31 gu.—Mr. J. R. Chaplin.
Jany 3rd, 53 gu.—Mr. Bottcher.
Heliotrope, 34 gu.—Mr. J. Howard.
Ranymede, 51 gu.—Lord Chesham.
Pretty Polly, 40 gu.—Mr. W. Welch.
Jocosa, 35 gu.—Mr. E. Bottcher.
Jacinth 2nd, 35 gu.—Mr. T. Allen.
Camberwell Beauty, 37 gu.—Mr. C. L. Saunders.
Oxford Belle, 75 gu.—Mr. J. White, Australia.
Oxona, 40 gu.—Mr. C. Ambrose.
Jany 4th, 35 gu.—Mr. T. Kingsnorth.
Shapdale, 33 gu.—Mr. J. T. Mett.
r. W. Cox.
Cox.
A. Green.
Ambrose.
abron.
Micklethwaite.
L. Saunders.
Frolicsome, 25 gu.—Mr. H. Aylmer.
Jocunda 2nd, 15 gu.—Mr. Ahrens.
Wariaby Lass, 33 gu.—Mr. T. Kingsnorth.
Janina 4th, 36 gu.—Mr. W. How.
Blithedale, 21 gu.—Mr. H. Aylmer.
Ella, 29 gu.—Mr. H. Aylmer.
Lady Albion, 31 gu.—Mr. C. Ambrose.

BULLS.

Grand Signor 2nd, 40 gu.—Mr. R. Simpson.

John O'Dale, 33 gs.—Mr. E. Bottcher.
 Earl of Oxford, 66 gs.—Mr. A. Grant.
 Oxford Lovel, 38 gs.—Mr. W. R. Green.
 Oxford Royal, 40 gs.—Mr. J. Wellingham.
 Jupiter, 32 gs.—Mr. W. R. Welcher.
 Master Blithe, 26 gs.—Mr. C. Beast.
 Manchester, 30 gs.—Mr. M. Fate.
 Defiance, 26 gs.—Mr. T. Kingsnorth,
 Jester, 20 gs.—Mr. Ahrens.
 Merton, 25 gs.—Mr. Ahrens.

		SUMMARY.			
		Average.		Total.	
46 cows.....	241	9	0	.....	£1,906 18 0
11 bulls.....	36	11	2	.....	408 3 0
57	40	10	2	.....	23,308 19 0-

SALE OF MR. KERSEY COOPER'S SHORTHORNS,

AT THETFORD, NORFOLK, ON FRIDAY, MAY 19, 1871.
 BY MR. J. THORNTON.

The declining health of Mr. Kersey Cooper has for some past compelled him to give up as much of his business as possible, so that, tempted by the Merton sale and company, his few Shorthorns were suddenly brought into the market, where they met a brisk sale, amid the heavy showers which fell on the Friday. The catalogue only comprised 18 head, which were chiefly from Lady Pigot's and Mr. Crisp's stock; while the bull, Hogarth 2nd, from the Rev. W. Holt Beever, and with him the cow Christabel and her progeny, had won a number of prizes. The stock was in good order, and although only a small company attended, yet good prices were realised. The first cow was knocked down to Mr. C. Cook at 54 gs.; the second lot, Silence 5th, with a Booth sire and a Bates dam, went to Mr. Gerard Barton at 54 gs.; whilst Mr. Hugh Aylmer gave 45 gs. for Christabel, and 76 gs. for Christine, a very good red show heifer. Mr. Sturgeon took Nelly 3rd, also a large-framed roan cow, at 50 gs.; and Mr. Gerard Barton gave 40 gs. for Violet 8th. A roan calf out of Nelly made 29 gs. Hegarth 2nd, although a very handsome bull, and a good sire, had not been doing much duty of late, and he went cheap to Mr. Rose, a young breeder, at 54 gs. There were several young bulls, which made good prices, and the 18 head averaged £37 18s. 4d. Four lots, the property of the Rev. G. Gilbert, were offered at the close, and sold well, two white heifers making within a guinea of 50 gs., and the bull Priam, of Mr. Fawlett's breeding, falling to Mr. W. How for 55 gs.

SALE OF MR. BARBER'S SHORTHORNS,

AT SPROATLEY RISE, HULL, ON WEDNESDAY,
 MAY 17, 1871.

BY MR. H. STRAFFORD.

This is the third periodical sale of Mr. T. Barber's surplus stock. The lot now offered comprised several of the fashionable Bates pedigrees, for which there was a good attendance of buyers, and a few capital prices realised. Grand Duchess and Grand Duchess 2nd, two of the Wild Eyes tribes, were cheap purchases at the Wicken Park 1869 sale, and they now realised 80 gs. and 70 gs., Grand Duchess 2nd going to Mr. Geo. Bland, of Coleby. Duchess of Clarence, a fashionably bred cow, by Duke of Clarence, and of the Duchess Nancy tribes recently sold at Lord Penrhyn's sale, went for 150 gs. to Mr. Cheney; while a yearling heifer from her by a Cherry Duke bull made 70 gs. from Mr. Nevitt, and Mr. W. Ashburner gave 65 gs. for a very good roan yearling of the same tribe. The Telluria family did not realise high prices, although

of good descent, Telluria 6th, a two-year-old heifer by Grand Duke 6th going to Mr. Thompson for 42 gs. Queen of Athens, a fine-looking cow by Col. Townsley's Royal Butterfly 3rd, from a descendant of Mr. Booth's Medora, made 77 gs. from Mr. Turner. The Amelia and Feathers tribe did not sell high; and the bulls indifferently, averaging but a little over 27 gs. May Duke, of the Duchess Nancy tribe, went to Mr. R. Betts for 71 gs., and two yearlings made poor figures. The general average of £40 11s. 10d. was, however, a great improvement on the £27 13s., which the 43 head made at the last sale in 1867.

COWS AND HEIFERS.

Grand Duchess, £31 10s.—Mr. Nevitt, Shropshire.
 Telluria 3rd, £25 4s.—Mr. Coverdale.
 Grand Duchess 2nd, £73 10s.—Mr. G. Bland, Coleby, Lincoln.

Butterfly's Rose, £39 18s.—Mr. Clarke, Ferraby, York.
 Amelia 8th, £43 6s.—Mr. Nevitt.
 Feathers, £34 13s.—Mr. Turner, Ulooby.
 Duchess of Clarence, £157 10s.—Mr. Cheney, Gaddesby.
 Croole, £42.—Mr. Turner.
 Queen of Athens, £80 17s.—Mr. Turner.
 Flora 2nd, £45 3s.—Mr. Barton, Crowle, Lincoln.
 Strawberry 5th, £37 16s.—Mr. Burton.
 Telluria 4th, £39 18s.—Mr. Ashburner, Ulverstone.
 Oxford Lass, £51 9s.—Mr. Cheney.
 Amelia 13th, £44 2s.—Mr. G. Ashburner, Ulverstone.
 Rosette 3rd, £50 8s.—Mr. Turner.
 Amelia 13th, £39 8s.—Mr. Nevitt.
 Flora 3rd, £36 15s.—Mr. Botterill, Lincoln.
 Telluria 6th, £44 2s.—Mr. Thompson, Woolthwaite, York.
 Rosette 4th, £36 15s.—Mr. Clarke.
 Duchess of Clarence 4th, £68 5s.—Mr. Ashburner.
 Cherry Lass, £32 11s.—Mr. Hatfield, Doncaster.
 Duchess of Clarence 5th, £73 10s.—Mr. Nevitt.
 Miss Feathers, £27 6s.—Mr. Crust.
 Royal Rose, £39 18s.—Mr. Crust.
 Telluria 8th, £22 1s.—Mr. Crust.
 Duchess of Clarence 6th, £52 10s.—Mr. Ashburner.
 Telluria 9th, £16 16s.—Mr. Nevitt.

BULLS.

Red Duke, £38 17s.—Mr. Wilson.
 Bonny Duke, £35 14s.—Mr. Willoughby Wood.
 May Duke, £74 11s.—Mr. R. Betts, Holbeck.
 Duke of the Rise, £35 14s.—Mr. Heskett.
 Bismarck, £13 12s.—Mr. North.
 Prince Royal, £14 14s.—Mr. Smith.
 Gambetta, £23 11s.—Mr. Botterill.
 Young Duke, £22 1s.—Mr. Stourton.
 General, £13 12s.—Mr. Walgate.
 Roan King, £26 5s.—Mr. Crust.
 Roan Prince, £19 10s.—Mr. Baxter.

SUMMARY.

		Average.		Total.	
28 Cows	246	16	0	.....	£1,310 8 0
13 Bulls	27	4	4	.....	353 17 0
41	240	11	10	.....	21,664 5 0

DEATHS OF FAMOUS HORSES.—Surplice, the winner of the Derby and St. Leger in 1848, died at Major Barlow's paddocks, at Haaketon, on May 7th, quite worn out. It was over this horse's Derby that Mr. Disraeli coined the now familiar phrase "The Blue Ribbon of the Turf" when offering consolation to Lord George Bentinck, who had sold the colt with the rest of his stud only two seasons previously. Surplice died in the possession of Lady Clifden, who would not sell any of her husband's favourites. On the Thursday following, Major Barlow met with a great loss in the death of his own horse, Defender, a very handsome thoroughbred stallion, who promised to equal the career of Dalesman during the ensuing summer, having already taken one prize at Woodbridge. Defender was also in his day a good race-horse at all weights and distances.

THE DARWIN THEORY.

About this time the world was created. So wrote the critic in the margin, when about half-way down the family tree of his Welsh friend; and so one feels very much inclined to write when about half way through Mr. Darwin's new work on the DESCENT OF MAN. For proof here we are compelled to travel far beyond the bounds of accepted tradition or reliable record. "Man is descended from some lowly organized form"—because he is shaped very much as a monkey, or because certain animals exhibit very logical instincts. But when did the transition from a lower to a higher order of intelligence first occur? Clearly, at some period before the world was created. "There can hardly be a doubt that we are descended from barbarians"—but this is a very different thing from being descended from monkeys. The Greeks called the Romans barbarians, and this nation in turn passed the compliment on to the Gauls, who regarded every new country in the same light. In fact, the advance and spread of civilization are to be traced in the rise and fall of Empires. Man became equal to and gradually the superior of his fellow man as he became more civilised. The luxurious excesses of the nobles had often a brutalising or "reverting" effect; and the mere savage called upon to exhibit himself for their amusement had as the event proved the more mind of the two, and so became in turn the conqueror. Mr. Darwin shuddered at the sight of the Fuegians, "naked and bedaubed with paint, their long hair tangled, and their expression wild, startled, and distrustful;" and yet this is almost word for word the description of his own ancestors when they were first invaded. So far we are safe, but no further. The lowest type of barbarian is still a man; that is, a creature with a mind capable of cultivation and development, if only taken sufficiently early. But no system of "selection," however careful or however gradual, can imbue a dog or a horse or a monkey with reasoning powers. We may, as we do and have done, improve the appearance and increase the strength of these animals, but we can make little or no perceptible advance in the amount of their intelligence. The pointer or the turnspit may be partly bred and more thoroughly tutored to his purpose; we may succeed in obtaining more nose or more speed, but there is not the slightest proof that by selection in breeding we attain to more *sense* or even to any higher range of instinct. On the contrary, it is doubtful whether the thorough-bred horse reared for many generations on the most scientific principles possesses as much intelligence or instinct as the mountain pony, which has been bred almost as wild as the rabbit or the rat. Here, then, we are enabled to draw the great divisional line. The savage is capable of civilization, the mere animal is not. Take the chain from the leg of a monkey who has seen the world, and he will be as dangerous a brute as if only fresh caught.

Mr. Darwin's favourite argument is, of course, selection. By the law of battle the best and strongest males amongst birds, beasts, and fishes can command their choice of the females, and he extends this theory or principle fairly enough to savage nations, where the braves have the handomest wives; the main exception to the rule being, of course, amongst civilised people, where the considerations of rank and wealth too often interfere—a not very flattering inference. Everything, however, is sacrificed to selection. Thus, "with our domesticated animals, when a foreign breed is introduced into a new country it

is found, after several generations, to have undergone, wherever the means of comparison exist, a greater or less amount of change. This follows from an unconscious selection during a long series of generations." We should be very much inclined to doubt the force of this proposition. With animals of precisely the same breed those introduced into a new country would be found, after several generations, to have undergone a change not so much from unconscious selection as from change of food and climate. The texture of the sheep's fleeces will vary as you transplant him from one country to another, as will the courage of the dog, and the size of the horse. The English race-horse goes directly back to the Arabian, and, as we are assured, not to the best Arabians either; and yet the English horse is now in every way infinitely superior to his desert-born ancestor. This can scarcely be altogether attributable to selection, as the Arabs are known to breed their horses with great care, and most probably from better material than we could in the outset command. Climate and keep have, of course, a vast deal to do with the appearance and value of any animal, as of even man himself; and yet Mr. Darwin passes over such considerations as these as apparently of little or no consequence. In parenthesis to a sentence we have already quoted he says, "When a native breed is long and carefully attended to, either for use or ornament," it also in time exhibits some change, or at least it should, for the better. And selection no doubt has much to do with any such improvement, although in many cases this is by no means the sole cause. Taking our choicest kinds of stock at this moment, there are many of these where the suspicion of a clever cross exists in a nearer or remote degree. Even the Shorthorn or the Southdown is not held to be quite free from alloy. Nevertheless, selection must be the A B C of breeding, and we only quarrel with the theory when carried to the lengths to which it is in THE DESCENT OF MAN.

The book is altogether rather an interesting than a convincing one. Great labour has been employed in making a collection of facts bearing upon natural history, which only tend to disappoint us in their application. Thus the anecdotes of instinct, of memory, and affection displayed by animals have really little or no weight when put in the balance against the human understanding. Any little lad who could not reason as well as the most intelligent retriever or most highly educated monkey would assuredly be regarded as an idiot; and here we see in a moment the invincible barrier which separates the several races. Still, Mr. Darwin has his followers, and no question but that in the scientific world it is fast becoming the fashion to go rather beyond the time when the world was created. Some year or so since we had the pleasure of hearing Professor Huxley lecture on the Pedigree of the Horse; not of Kingcraft, or Macgregor, although it was just previous to the Derby, nor even deigning to notice the Godolphin or the Darley Arabian. Admitting in the outset that the horses and asses of a remote period, long before any indications of the existence of man had been found, resembled in nearly every respect the horses and asses which now run wild in many parts of Asia and Africa, the Professor proceeded to trace these to the hipparion, an animal with two little hoofs or fingers, and thence to his "hypothetical ancestor," the anchitherium, with three toes in the fore-limb; or further back yet, to the plagiophus minor, "which differs from the horse

only in degree, and not in kind." The Professor here brought his pedigree to a point, triumphantly asking if the horse did not succeed the hipparion, was it created afresh out of nothing? Of course, this kind of argument might be extended *ad infinitum*, as, for instance, was the plagiophorus minor created out of nothing? or how was his origin brought about? Mr. Huxley is a disciple of Mr. Darwin, who, as we have endeavoured to show, traces the pedigree of man back in much the same way to some lowly organised material, although without the same connecting links to his story. A horse may have been originally a plagiophorus minor, but if we are to put any faith in the first chapter of Genesis, man in the outset held dominion over every other living thing. And this dominion was the man's *mind*, which Mr. Darwin builds up from some inferior foundation!

AN OUTGOING TENANT.

One of the most extensive dispenishing sales which have occurred in the Lothians for many years has just taken place at Ferrygate, near North Berwick. The circumstances out of which the sale originated was somewhat peculiar. The tenant, Mr. William Sadler, at the election in 1865 was a prominent supporter of the Liberal candidate—Mr. G. Hope, Fentonbarns, also a tenant-farmer in the county—and in the succeeding election in 1868 he prosecuted the canvass of Lord William Hay, also a Liberal candidate, against Lord Elcho. When his lease expired this year, he was politely informed by his landlord, the Right Hon. Nisbet Hamilton, that he could not have a renewal. The sale was attended by a large number of tenant-farmers from the adjoining county, and the weather being fine the proceedings were conducted under the most auspicious circumstances. The implements sold in the early part of the day were of the most varied description, and excepting the two steam ploughs, with which Mr. Sadler introduced the system of steam cultivation into Scotland, and which were sold by private bargain for less than £2,000, although they cost him over £3,000, they were disposed of without reserve. The stock was sold in the afternoon, and from the quality of the animals, the large additional attendance of buyers from the north of England, who came by the afternoon trains, might have been expected. Mr. Brand, of the firm of Brand, Clapperton, and McNiven, officiated as auctioneer. About one o'clock one hundred gentlemen sat down to dinner in the granary, under the presidency of Mr. James Skirving, Luffness Main, supported on the right by Mr. W. Sadler, Ferrygate, and Mr. George Hope, Fentonbarns; and on the left by Mr. James Begbie, Queenstonbank, and Mr. Adam Nelson, the incoming tenant.

Mr. GEORGE HOPE, after the cloth had been removed, proposed the health of Mr. Sadler. It was, to him, he said, always a very painful thing to attend the dispenishing of the stock of any farm, particularly so when the owner of it was an old and kind friend. But this was just the very time when they ought all to appear to support Mr. Sadler, who had not only been a kind friend and a good neighbour, but an able, energetic, and most enterprising farmer. He had introduced steam cultivation into the county—one of the greatest events which had taken place in East Lothian (applause). He (Mr. Hope) had followed Mr. Sadler in the matter of steam cultivation at some distance, and he could say that, though there had not been the rapid progress which they might have wished, he was sure that by-and-by the whole land in the country would be cultivated by steam. No new implement had been brought before the public for a long time which Mr. Sadler had not purchased and proved, and told his farming brethren whether it was an improvement or not. Though Mr. Sadler was going to leave the county, he was glad to say that he had been in much better health for the past two or three years than previously, and he hoped they would all drink a bumper to his health (applause).

Mr. SADLER, in acknowledging the toast, said I beg to return you my sincere thanks for the kind way in which you have

drunk my health, and I also beg to thank you kindly for your attendance here to-day at the dispersion of my agricultural *Lares et Penates*. I have tried while I have been amongst you to do the best I could for agriculture, and I have perhaps introduced implements which may yet benefit our profession. It is vexatious for me to report that I did not meet from the right hon. gentleman, the owner of these lands, that response to my endeavours which, had I been in his position, I would have been glad to have given. Since I have resided amongst you I have taken a little interest in political matters, and as you are aware we have actually endeavoured to send a tenant-farmer to Parliament. I believe, in the eyes of some people, this is considered a great crime; indeed, I have understood from reliable sources that some landlords hold the opinion that votes appertain to the land cultivated, and not to the capital invested in the cultivation. This idea, I am induced to think, will die out in course of time, like other curious feelings and ideas of the fossil stage of our existence (laughter). As you are aware, we did not succeed in our attempt to send to Parliament a gentleman and a noble Lord, both of whom would have advocated the suppression of those distressing and obnoxious laws which form an incubus upon the position of Scottish agriculturists. At the same time we gave an impetus to the general freedom which we fought for, and the movement placed its mark upon several of our Scottish counties. I have no doubt our platform, as regards hypothec, Game-laws, and entail, will sooner or later be worked out to the satisfaction of the majority of people of this great nation, and some of us may live to see at a future day a greater freedom, equality, and happiness amongst us all; and in making these remarks, I trust that the present endeavours now being made towards the advancement of education may tend to improve the welfare of our agricultural labourers, without whom there would be landlord or tenant? Before sitting down I beg to propose a toast. You may perhaps think that, according to rule, I am going to give you "The Lord of the Manor;" but those who know the circumstances of my leaving this farm will not expect it from me (laughter). I now beg to propose, "Health, success, and prosperity to the incoming tenant—Mr. Adam Nelson."

Mr. NELSON felt it was no easy task to succeed Mr. Sadler in such a farm, but that gentleman was leaving a character behind him for enterprise and uprightness excelled by none in the county. Mr. Sadler left many friends in East Lothian, and no one would be more ready to see him in the district again than he (Mr. Nelson).

The sale of implements realised in many respects fully cost prices. The horses sold from £21 to £57, the black cattle from £19 15s. to £26, and the Shorthorns from £19 15s. to £27 5s. The whole sale realised over £3,000.

HALF RATING.

The paper read by Captain Dashwood, of Kirtlington, at the meeting of the Farmers' Club, in April 1869, has just been re-issued by Ridgway, of Piccadilly, as a pamphlet. In the preface Captain Dashwood says:

"Since my paper on local rating appeared two years ago, the Government has brought forward a bill embodying the half rating there advocated. And although the change is only in the administration, and the fact that any charge paid by the tenant is a diminution of rent to the landlord, still many see the change in the light of the introduction of a new burden on the land. I am glad to see the half rating (in England, a new principle) gaining ground, for a measure that shall bring rating more directly to the consideration of the landlords, will make them see how much they are interested in the expenditure, and will bring them into active co-operation with their tenants. And in this way the interest of both will be jointly worked to the advantage of the country. The tenant at the present time is made the agent of the landlord in administering the rates, but as the tenant's interest is temporary, whilst that of the landlord is permanent, questions will continually arise where the conflicting interests will tell to the prejudice of the owner and of the public. I think this paper may also be found useful in

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

At the monthly meeting of the directors was held in Edinburgh, Mr. Russell in the chair,

Letters were read from Dr. Alexander Williams, Privy Council Office, London, acknowledging receipt of the memorial referring to the transit of animals, and requesting that the directors would furnish, for the information of the Lords of the Council, a list of additional stations where it is considered necessary that water should be supplied on the various railways in Scotland, in order that, should it hereafter be considered necessary to issue another order of Council on the subject, such stations may be taken into consideration by the Lords of the Council. Some additional stations were suggested by the board, and the Secretary was instructed to send a list of them to the Privy Council.

The following report was read: Report to the directors of the Highland and Agricultural Society on the subject of Miss Burdett Coutts' offer to promote, through the medium of the Society, the inculcation in schools of the duty of humanity to animals. The committee to whom Miss Burdett Coutts' letter to the Secretary of 7th June last was remitted, beg to report as follows: Miss Coutts having signified her approval of the suggestion made to the directors on the 4th of May, 1870, that that lady's benevolent intentions might be best promoted by the offering of prizes on the subject, the competition to be open to male or female students who have recently left any of the normal schools, little remained for your committee but to prepare the terms of the advertisement by which prizes should be offered. Before doing so, however, your committee considered the question whether the competition might not be extended to veterinary surgeons, or others of the public whose practical experience in the matter might be of use. The resolution they came to was that such an extension of the competition would probably exclude those who are looking forward to teaching as their profession, and whose attention, therefore, it is most desirable to attract to the subject. A more difficult question to decide was that put to the Society by Miss Burdett Coutts as to the amount of prizes which would be deemed advisable. On this point the committee, fully aware of the generous liberality of the lady whose bounty the Society is to administer, venture to suggest that prizes to the total amount of £45 might be offered. Their proposed distribution will be understood from the annexed notice. In name of the committee, A. CAMPBELL-SWINTON, Convener.

The directors of the Highland and Agricultural Society of Scotland are authorised by Miss Burdett Coutts to offer for competition five prizes for essays "On the most efficient method of inculcating in primary schools the duty of humanity to the lower animals." The competition is limited to pupils (male or female) who left any of the training colleges of Scotland in December, 1870.

A letter was read from Miss Burdett Coutts approving of the report, and expressing her wish to increase the amount to £50, and give an additional £5 prize, which was approved.

The half-yearly general meeting of the Society, for the election of members and for other business, was fixed to be held on Wednesday the 21st of June.

The report of the examinations for the Society's Veterinary Diploma on the 10th, 11th, and 12th ult., when twenty-seven students passed, and ten medals were awarded by the Society, was laid on the table.

The minute by the Special Committee appointed to consider and report on the chemical department of the society with the view of affording the benefit of chemical investigation to the agriculturists all over the country was read. The committee recommend that, in any re-arrangement of the office of chemist to the society, the following suggestions should be adopted: 1. That the chemist should have his laboratory at the head-quarters of the society in Edinburgh, and reside there. 2. That in fixing the salary of the chemist the scale of prices for analyses should be revised, with the view of reducing the rates. 3. That the field experiments carried on by the society should have the chemist's special attention. The publication of the results to be periodical and under his entire charge and control. 4. That the society should grant assistance to each county to aid in establishing and maintaining a

club for the analyses of manures and feeding stuffs offered for sale—the rules of which have been approved of by the society. The board resolved to delay consideration of the suggestions contained in the minute.

A report by the deputation of the Special Committee appointed to visit Offerton Hall and inspect the Fiskien system of cultivation was submitted. The report concludes as follows: The main advantages claimed for the system (simplicity and economy of working arrangement and of first outlay, and general adaptability to fields of varying size and shape) appear to be substantially borne out by the practical success it has achieved on Mr. M'Laren's farm. Until, however, it has been ascertained by direct and careful testing what amount of power is consumed by friction, &c., and what amount of time is consumed by the arrangement of the tackle, it is not possible to give any judgment as to the practical efficiency of the "system," or its comparative economical application.

On the motion of Mr. HUNTER of Thurston, seconded by Mr. MURRAY of Dolerie, it was resolved that a petition be sent to Parliament to declare crows and wood pigeons to be vermin under the Gun Tax Act, and not to require a licence for the purpose of killing them where authority in writing has been given by the owner of the land.

A circular was submitted from Alb. Ehrensvard, president, announcing that the thirteenth Swedish agricultural meeting will be held at Gothenburg on the 1st of August and four succeeding days.

THE ROYAL AGRICULTURAL BENEVOLENT INSTITUTION.—At the last meeting of the Council it was resolved that for the future candidates shall be admissible, men at sixty and women at fifty-five years of age. Hitherto there have been certain distinctions, in some cases the qualification being as high as seventy; but in the present flourishing condition of the Institution the Council is enabled to adopt one general rule for the male and another for the female pensioners.

The monthly report of the United States Department of Agriculture for April states that returns from all sections of the country give satisfactory prospects of abundant crops of winter grain. In New Jersey, the counties of Bergen, Passaic, Mercer, Burlington, Monmouth, Gloucester, and Salem, report wheat from 10 to 25 per cent. above an average in condition, while Sussex and Ocean represent it as looking remarkably well; Morris is better than for years past, Mercer never more promising, and Essex a fair average. No county reports less than an average promise. Farm stock is stated to have come out of winter quarters in higher flesh and better health than for several years past. In 1838 there were only 78 bushels of wheat shipped from Chicago, and in 1840 only 10,000 bushels, while in 1870 the total quantity of flour and grain shipped amounted to 54,745,903 bushels. In 1852 Chicago shipped 10,976 barrels of pork; in 1870 the total had risen to 165,885 barrels. In 1852 the shipments of cut meat and provisions were 1,446,508 lbs.; in 1870 they had risen to 112,453,168 lbs. The shipments of lard rose from 1,000,000 lbs. to 43,000,000 lbs.; those of wool from less than 1,000,000 lbs. to nearly 16,000,000 lbs., and so on. The shipments of cattle were 25,000 head in 1857, and 391,709 head last year. The shipments of hogs, alive and dressed, in 1857 were 123,568 head, and last year 1,095,671 head. The number of hogs packed at Chicago in 1857 was 74,000 head; in 1870 the total had risen to 638,140 head. The transportation of grain in Illinois has recently been subjected to certain stringent regulations in accordance with the provisions of a bill passed by the legislature of that State and just signed by the governor. This law requires railway companies to give full and accurate receipts for all the grain which may be entrusted to them, to deliver the same quantity as shipped at the destination ordered by the consignor, and to transport all grain offered without distinction, discrimination, or favour between one shipper and another, and without distinction or discrimination as to the manner in which such grain is offered to them for transportation, or as to the person, warehouse, or place to whom or to which it may be consigned. The consignor under this law is entitled to recover of the railroad company the full value of the grain at the place where it was shipped in case the company fail to deliver at the point designated.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REVIEW FOR MAY.

The weather has been changeable during the past month, but on the whole has been not unfavourable to the development of the growing crops. Low temperature or frosty nights at one period put the young wheats to severe trial, and much loss of colour ensued, while the plant became patchy in some districts, particularly on light soils. Later on, abundant rains, accompanied by higher temperature, gave rise to the belief that the plant might run to straw at the expense of the ear; but the month closes with more satisfactory prospects. The weather during the past few days has been favourable to the crops generally, and much improvement has taken place in the appearance of the fields. Still the prospect before us is not altogether so favourable as could be desired. The wheat plant is now backward, and there are fears of its productiveness being reduced by further exposure; nevertheless, we believe that a continuance of genial forcing weather would go far to remedying many defects that at present exist. Out-of-door labours have been pushed forward rapidly. Potato-planting has been completed, and the preparations for planting the root crop are in a forward state. A good deal has already been done in seeding swedes and mangolds. The most favourable feature in the agricultural out-look is the promise of a heavy hay crop, which appears tolerably certain to be fulfilled, unless the nights again become cold and vegetation is thereby again retarded.

Trade in wheat has ruled quiet, but prices have shown firmness throughout the month. Supplies of home-grown wheat have been limited, stocks in farmers' hands having been greatly depleted by the recent heavy demands upon them. Millers, however, have acted with extreme caution, under the belief that the wheat crop promises fairly for the time of year. At the same time the contradictory accounts received have tended to strengthen the hands of factors, and values close rather higher on the month. There has been a full average show of foreign wheat on sale, and the quantity of produce afloat for the United Kingdom is large for the time of year. Already shipments of this year's loading have arrived from the Black Sea and Baltic ports, and it is believed that the imports will continue on an extensive scale. A leading feature in the market is the probability of an extensive demand on French account; but the hopes of a resumption of exports direct to France have again and again been disappointed. And it is necessary to point out that even supposing that the export demand were at once renewed—an improbable circumstance in the present state of Paris—it is not likely to last after the harvest, which is not far distant in the South of France. With the exception of Picardy, none of the wheat-growing districts of France were occupied during the late campaign, and there is good reason to believe that the quantity of wheat that France will raise this year will be sufficient to meet her wants.

There is little of interest to notice in the spring corn trade. Demand has been fairly active for barley and oats, and prices have shown firmness. Very little maize is now on offer, but the prospect of an abundant grass crop has prevented any important advance in values. Beans and peas have sold quietly at full rates. Flour has moved in sympathy with the wheat market, and the quotations close at an advance on the month.

The tendency of the quotation for hay has been in favour of buyers, and there is little prospect of the present high rates being maintained. A sharp fall may be anticipated immediately on cutting, but the quantity of hay on hand is at present not large. Roots, however, are plentiful for the time of year. The accounts received of the growing hop plant are not cheering. The yield threatens to be considerably under that of last year, which, however, was exceptionally favourable. The market accordingly shows great firmness in regard to prices, though operations have been much retarded.

Wool has now attained a high price, and looking at the satisfactory position of the goods' trade, it is probable that the present currencies will be maintained. The woollen industry is now in a most satisfactory position, and the demand for good wools is likely to continue.

REVIEW OF THE CATTLE TRADE FOR THE PAST MONTH.

The cattle trade has been alternately steady and depressed. The supplies of stock have been good, both in respect to number and quality. During the earlier part of the month a fair amount of firmness was apparent, and the best Scots and crosses occasionally made 5s. 10d. per 8lbs; subsequently, however, there was a falling-off in the inquiry, and the quotation fell to 5s. 6d. per 8lbs. The abundant supply of grass enables the stock to obtain a good feed, and the effect of liberal forage is already apparent in their condition. The foreign stock also has been of rather better quality, especially the arrivals from Spain; these beasts have made 5s. 2d. to 5s. 4d. per 8lbs.

As regards sheep, the receipts from our own grazing districts have been tolerably good, and have included some prime animals. The foreign stock has come freely to hand, and a marked improvement has been noticed in the quality of the Dutch. The trade has been unsettled. At one time the best Downs and half-breds were making 6s. 4d. to 6s. 6d., but at the present moment they do not command more than 6s. per 8lbs.

Lambs, of which a fair supply has been on offer, have sold slowly, at from 6s. to 7s. 6d. per 8lbs.

For calves the inquiry has been restricted, and prices have had a drooping tendency.

Pigs have been in limited request.

The total imports of foreign stock into London during the past month, have been as follows:

Beasts	...	...	...	4,804
Sheep and Lambs	...	...	...	67,530
Calves	...	...	...	1,325
Pigs	...	...	...	2,077
Total	...	...	...	75,736

Import at corresponding periods:

Total in 1870	...	...	...	36,281
" 1869	...	...	...	64,332
" 1868	...	...	...	24,627
" 1867	...	...	...	53,465
" 1866	...	...	...	43,930
" 1865	...	...	...	40,739
" 1864	...	...	...	28,832
" 1863	...	...	...	22,161
" 1862	...	...	...	11,206
" 1861	...	...	...	18,978
" 1860	...	...	...	18,910
" 1859	...	...	...	10,713
" 1858	...	...	...	6,703

The total supplies of stock exhibited and disposed of at the Metropolitan Market during the month have been as under:

				Head.
Beasts	...	...	...	10,160
Sheep and Lambs	...	...	...	110,230
Calves	...	...	...	1,380
Pigs	...	...	...	850

COMPARISON OF SUPPLIES.

May.	Beasts.	Sheep & Lambs.	Calves.	Pigs.
1870	16,185	166,085	2,764	580
1869	20,113	164,969	2,056	671
1868	17,610	176,000	21,92	1,350
1867	19,860	160,370	1,709	2,260
1866	16,275	125,490	695	2,195
1865	22,030	129,140	3,199	2,117
1864	23,240	122,210	2,063	3,080
1863	20,444	108,040	2,129	3,120
1862	19,273	132,450	1,627	3,023
1861	19,500	113,750	1,178	2,950
1860	19,040	124,580	2,069	2,920
1859	17,980	113,512	1,012	2,260
1858	18,722	116,386	1,671	2,760

The arrivals of beasts from our own grazing districts, as

well as from Scotland and Ireland, thus compare with the three previous years:

	May, 1871.	May, 1870.	May, 1869.	May, 1868.
From Norfolk, Suffolk, &c.	7,200	6,640	4,530	9,200
Other parts of England.....	1,258	2,104	2,660	2,200
Scotland	1,111	1,086	663	554
Ireland.....	50	80	239	436

Beasts have sold at from 3s. 4d. to 5s. 10d., sheep 3s. 2d. to 6s. 8d., lamb 6s. to 7s. 6d., calves 3s. 8d. to 5s. 6d., and pigs 3s. 6d. to 5s. 4d. per 8lbs., to sink the offal.

COMPARISON OF PRICES.

	May, 1870.			May, 1869.		
	s.	d.	s.	s.	d.	s.
Beef from	3	0	5	3	0	5
Mutton	3	0	5	3	0	6
Lamb	6	6	7	5	8	7
Veal	3	10	5	4	6	6
Pork	4	6	5	3	6	5

	May, 1868.			May, 1867.		
	s.	d.	s.	s.	d.	s.
Beef from	3	2	5	3	4	5
Mutton	3	4	5	3	6	5
Lamb	6	6	7	6	6	8
Veal	4	4	5	4	4	6
Pork	3	4	4	3	0	5

AGRICULTURAL INTELLIGENCE,
FAIRS, &c.

AUCHINBLAE MARKET was held at Auchinblae on Wednesday, on the usual stance. There was a full average supply of cattle, and a considerable number of dealers were present. Prices—especially for grazing stock—were exceedingly high. The following are a few of the transactions: Messrs. J. and J. Balfour, Muirton, sold 6 stots (two-year-olds) to Mr. Nicoll, Flemington, at £17 10s. Mr. Thompson, Myreside, sold 18 stots and queys to Mr. Walker, Forfar, at £16 12s. 6d. and a luck-penny. Mr. Brown, Townhead, Arbuthnott, sold 7 stots to Mr. G. Fairweather, Drumaleed, £12 7s. 6d. and a luck-penny. Samuel Young, senior, Auchinblae, sold 2 stots to the same party for £39. Jas. Calder, Mains of Dillyvaird, sold 7 stots at £17 to Mr. Towns, Ballandra; also 2 cows for £30, and 3 stots for £16 to William Nicoll, Flemington. Mr. W. Calder, Milton of Dillyvaird, sold 6 stots for £24 to Mr. Smith, Marchburn. S. Young, jun., Auchinblae, sold 3 stots at £26 to G. Nicoll, Forfar. Mr. Allan, Backfield, sold 2 stots at £18 each to Mr. Milne, Lilybank, Forfar. Samuel Young, jun., sold 7 stots at £14 to Mr. Farquharson, Gallonquhine. Mr. Moir, Forfar, bought 4 stots at £13 each from Mr. Sheret, Mains of Glenfarquhar. Mr. Emalie, Gowans, bought 4 stots at £11 15s. from Mr. Milne, Tannochil. Mr. Mitchell, Auchtochley, sold 5 stots at £14 15s. to Bailie Fyfe, Forfar, &c. The Irish cattle on the stance, of which there were a good many, were mostly of middling quality. Beef may be quoted at from 11s. to 11s. 6d. per stone.

BERWICK FAIR.—This annual border fair was held on Friday. There was a good show of fat and grazing cattle, but the show of sheep was small. For fat cattle the demand was very dull, and comparatively few sales were effected, most of the lots being returned home unsold. Beef was selling at about 9s. 6d. per stone. A copious fall of rain on Thursday and the prospect of abundance of grass induced the holders of grazing stock to ask enhanced prices, which farmers were unwilling to give. Business consequently was very limited. Most of the lots of sheep shown were returned home unsold.

BLYTH FAIR.—This annual fair was held as usual on Ascension Day. For many years it surpassed all the fairs held in the neighbourhood, but of late it has fallen off considerably. On Thursday week the show of horses was the most numerous, Mr. Holmes's being especially a fine lot, but there was very little business done, and what sales were effected were at about market prices. Both cattle and sheep were very sparingly represented, and what little trade was done was at exceedingly high rates. Pigs scarce, only one small lot being offered for sale, and what were disposed of was at about the market price.

BRIDLINGTON FAIR.—The weather was fine and the attendance of buyers large. The number of cattle brought in was above an average, and nearly all were sold. Beasts in good condition, of which there were many, realized prices varying from £18 to £20 each, and fat ones from 5s. 6d. to 10s. per stone. Steers and drapes were also disposed of at high prices. Two years old beasts from £13 to £16 each, and those of one year old from £7 to £10 each. Milch cows and incalvers varied from £17 to £24 each.

LINCOLN FAT STOCK MARKET.—A good show of both beasts and sheep, most of which were sold by auction. Beef was as dear as ever, but mutton was a little easier.

MAUCHLINE MAY FAIR.—This fair took place on Wednesday last. The show of stock was greater than that at the corresponding market last year, and was an average in respect to quality. The prices asked were very high, which caused business to open flat, and as the day advanced the dullness did not seem to be much relieved, for sales were cautiously and tardily effected. As a sample, it may be stated that Mr. Hugh Taylor sold Mr. Nisbet, Lawhill, Stair, a three-year-old quey for £20. Milch stock from £14 to £20; queys from £9 to £11, stirks £6 to £8, and Irish and Galloway stock from £6 to £8. Mr. Wyllie, Ochiltree, showed some first-rate harness and cart horses in capital condition, which were all sold. There was a good display of entire Clydesdale horses, and also one thorough-bred blood, which was very much admired.

SLEAFORD FAT STOCK MARKET.—A large and first-class show of both beasts and sheep, which met with a very brisk trade, mutton making 9d. to 10d. per lb., beef 10s. to 11s. per stone, fat lambs 26s. to 37s. 6d. each, cut pork 7s. to 7s. 9d. per stone. Number sold by Mr. Law: Sheep 1,021, fat lambs 51, beasts 53, pigs 25. These sales commenced at 9.30 precisely.

SWINDON MAY FAIR.—The supply of horses, for which this fair was once famous, was very small. There were a few good animals on offer, and these realised high prices. The usual collection of "screws" offered by the loquacious gipsies to "green" purchasers was to be found. In the cattle market there was a good supply. Fat beef is still dear. The prevalence of east wind and the absence of rain have made keep short, and purchases in store stock are consequently slow. The price of mutton continues to advance, and housekeepers may well feel alarmed at the prospect. Anything in the shape of mutton sells well, and to-day lambs three months old were sold by Mr. Dore at his auction yard at 45s. to 46s. per head.

TOLLER DOWN FAIR.—There was a very numerous attendance. Weather brilliant. Stock was in good condition, and there was about an average supply. At first business was slack, owing to fears as to a third dry summer. As the day wore on, however, trade improved, and nearly all the stock changed hands at a trifle under previous rates. Anything of exceptionally good quality was soon picked up, and late prices were fully maintained. Of sheep, horn hogs of best quality made good figures, a prime lot fetching near upon £3 per head. The average price, however, was 39s. to 46s. Cross-bred hogs ranged from 38s. to 40s. 6d., whilst small down hogs could be bought as low as 32s. 6d. up to 40s. There were a few fat horn lambs, which sold from 27s. to 32s. 6d., stock horn lambs 20s. to 25s. 6d., down lambs 18s. to 24s., down couples 50s. to 58s. Cow stock was not in such a large supply as in former years, except weanling calves, which were up to the average. Cows and calves £15 to £20, barreners in fresh condition £11 to £16, bulls £8 to £12, calves £3 to £4 each. In the horse fair were some capital agricultural horses. Indeed, a finer show has never been seen on the hill. Prices were high—from £40 to £50. There was a poor lot of hacks. The pig trade was dull, at much lower prices—strong slips 20s. to 25s. each.

IRISH FAIRS.—**BALLYBAT:** Beef of prime quality went at 8d. per lb., and inferior at 7d. to 7½d. per lb., with a very fair supply. Mutton rated at 7d. to 8½d. per lb. Springers sold at £14, £18, and £22 each, strippers from £9 to £14, two-year-olds from £8 to £13, yearlings £6 to £8. Pigs: supply of fat pigs scanty, bacon pigs on foot sold at £2 5s., stores from £1 10s. to £2 10s. each, and young pigs from 18s. to 25s. each. The horse fair was extremely large; horses sold in many instances as high as £40 and £50 each.—**CASTLE-POLLARD:** Stock was abundant, buyers numerous, and prices remunerative. Fat cattle were worth from 56s. to 70s.

per cwt.; barren ewes and two years old wethers, shorn, 7d. to 8d. per lb.; springer and milch cows, £12 to £23 a-piece; strippers and dry cows, £10 10s. to £16 10s.; three years old heifers, £15 5s. to £18; two years old £10 5s. to £14; one year old, £8 10s. to £8 8s. each; clipped hoggets, 42s. to 47s.; lambs, 22s. to 25s.; bacon hogs, 44s. to £8 10s.; stores, 36s. to 50s.; bonhams, 32s. to 34s. per pair. A great clearance was made in the victuallers' and dairy departments.—At BALLYMAGOVERAN, springers brought from £10 to £13 10s., and yearlings sold from £6 to £9.—CASTLEDERMOT: Fat cattle were in limited numbers, and sold extremely high, ranging from £17 17s. to £24; milch cows, £15 15s. to £18 10s.; springers, £14 14s. to £19; strappers, £11 10s. to £13 10s.; three-year-old heifers, £13 13s. to £14 10s.; two-year-olds, £11 15s. to £12 15s.; yearlings, £8 10s. to £8 8s.; large bullocks, £13 5s. to £14 5s.; yearlings, £5 5s. to £6. In sheep there was only a moderate business done. The pig fair was large. Fat pigs from £4 10s. to £5 15s.; stores from 50s. to 60s.; bonhams, 12s. 6d. to 15s. 6d. In the horse department there were good sales effected, and some fine colts were picked up for military purposes at figures ranging from £35 to £47; hunters and half-bred fetched from £25 to £56; agricultural horses, £15 to £22.—PORT-ARLINGTON: Store stock, although numerous, met dull buying, in consequence of the dry and prevailing harshness of the weather. Fat cattle fetched from £16 10s. to £22; milch cows from £15 15s. to £18 10s.; springers from £16 16s. to £19 10s.; strippers rated from £11 10s. to £13 10s.; three-year-old heifers, £13 to £14 14s.; two-year-old, £11 11s. to £12 15s.; yearlings, £5 10s. to £5 15s. Large bullocks sold from £12 10s. to £14 10s., yearlings £4 15s. to £5 5s. In sheep there was a good attendance of shearings. Fat sheep £2 15s. to £3 3s., ewes 45s. to 52s., hoggets 42s. to 45s., stores 30s. to 35s. There was a large show of horses, with a good business. In pigs there was a numerous display, but business flat for bacon. Fat pigs rated from £5 10s. to £7 15s., stores 50s. to 63s., bonhams 14s. to 17s. 6d.

BRESLAU WOOL REPORT, May 25.—The improvement established in our trade is making further decisive progress, both as to the advance of prices and the demand of purchasers. All descriptions continue required, chiefly the fine ones, which having become very scarce are realising extreme quotations. In want of the Silesian produce extensive transactions are being made in fine Prussian, Moravian, and Hungarian wools, prices ruling at from 80 to 90 shalers. Among the latter we mention two renowned flocks of Count Karoly and Baron Sina (about 1,000 cwts.) which have been acquired for Rhenish account. As for the remainder, about 3,000 cwts. of good middle-fine one-shearings, alipes and scoured wools, have been disposed of, home manufacturers and speculators being the buyers. Contracts for the approaching fresh clipping are continued with great energy, and whatever can be called fine meets with eager purchasers at an advance of 6 to 10 per cent.—GUNSBERG BROTHERS.

MELBOURNE WOOL REPORT FOR MARCH.—At the date of our report for last mail the season was nearly brought to a termination, and the sales which have been held since have been comparatively unimportant. In all, 2,976 bales have been brought to the hammer, of which quantity 2,799 bales have been sold. The more cheering news brought by the Rangoon has caused an improved feeling in this market, and the auction sales which have been held since the arrival of the mail have passed off with considerable spirit, at an advance in prices which corresponds to that which has been realised in London. According to the telegrams which have reached the colony, the February sales were progressing at an advance of from 0½d. to 1d. per lb. above the rates which were current during the November series, and this rise, in the face of the enormous supplies which were known to be forthcoming for the May series, furnishes satisfactory evidence of the stability of the trade and its power to absorb all the wool that is likely to be brought forward. No doubt the prospect of a speedy settlement of the war between France and Prussia has mainly contributed to cause firmer prices, but even leaving this out of the question, we find that the English manufacturers continued fairly employed, and that their stocks of the raw material were, when the mail left, nearly exhausted; consequently they were obliged to operate in order to meet im-

mediate requirements. It is, therefore, evident that the wool trade has, to a considerable extent, recovered that shock it experienced when war was declared; commerce having rapidly adjusted itself into other channels, consequently the almost total withdrawal of French competition at the London sales has not caused such a serious decline in prices as was at first anticipated. The wonderful elasticity of the trade and its power of adaptation to circumstances has seldom been so severely tested, and it is gratifying to note that the sudden check which it received has been so quickly overcome. The large quantity which will be brought forward in May will severely test the market, but we trust that ere then a satisfactory peace will have been concluded, in which case considerable support from foreign buyers may be expected, and this will no doubt counteract any tendency towards lower prices which might otherwise have been manifest. We note from the various London brokers' reports that a large increase in the import from these colonies is anticipated, the favourable season being expected to result in a considerably augmented yield of wool. We cannot discover sufficient grounds for this expectation, the increase so far as it has been ascertained, being comparatively trifling. The shipments from Victoria, from October 1st to date, are 192,555 bales, against 186,975 bales shipped at the corresponding period of last season; consequently the increase is only 5,581 bales, and this arises more from the heavier yields per fleece than from a larger number of sheep having been shorn. We believe the shipments from these colonies reached their maximum limit in 1869, and the wool growers have now become so fully impressed with the necessity of improving their flocks, rather than sacrificing excellence to quantity, that we feel justified in believing that the export of wool will not be materially augmented for many years to come. It is well known that large tracts of country in the north which were stocked with sheep had to be abandoned during the severe droughts which prevailed for three years in succession, and these localities have since either been left unoccupied or depastured with cattle. In the generally dry and unsuitable districts referred to, it was found that since the decline in the value of wool, sheep would not yield a remunerable return, and the losses which ensued were so severe that it is scarcely likely that the experiment will again be tried. The distance from seaports, and unsuitability of the climate of the far north for wool-growing, will militate against future attempts at sheep farming in that portion of the continent, and in the older settlements all the land that could be made available for depasturing purposes has for years past been fully occupied. It therefore becomes evident that no great increase of Australian wool can be looked for for years to come, or until the grazing capabilities of the country have been improved by artificial means; and, taking this view of the question, we believe that the expectations of largely increased importations which have been formed in England are without foundation. The various meat-preserving companies are now so materially increasing the consumption of live stock that any increase in the wool clip which might have been realised through the unusually favourable season has been almost entirely counteracted. The following ships have cleared for England during the month with wool on board: March 2, *Almager*, Melbourne for London, 4,367 bales; March 4, *Ariel*, Melbourne for London, 1,110 bales; March 6, *Loch Earn*, Melbourne for London, 1,907 bales; March 10, *Clarence*, Melbourne for London, 1,326 bales; March 10, *Avonmore*, Melbourne for London, 4,462 bales; March 16, *Kirkham*, Melbourne for London, 3,039 bales; March 16, *Trac Briton*, Melbourne for London, 1,143 bales. Total, 17,253. Previous shipments October 1, 1870, to date, 175,303 bales. Total shipments to date, 192,555 bales. Total shipments corresponding period of last year, 186,975 bales. Increase, 5,581 bales. Prices current—Greasy—Inferior, 4½d. 5½d.; ordinary, 5½d. to 6½d.; average to good, 7d. to 8d.; good to superior, 8d. to 9½d. Fleeces—Inferior, 9d. to 10½d.; ordinary to average, 11d. to 1s. 2d.; average to good, 1s. 2d. to 1s. 5d.; superior, 1s. 5d. to 1s. 7½d. Scoured—Inferior, 10½d. to 11½d.; ordinary, 11d. to 1s. 2d.; middling to good, 1s. 2d. to 1s. 4d.; superior (none offering), nominal. Summary of sales this month—R. Goldsbrough and Co.—Sales 2; bales offered, 2,041; bales sold, 1,914. London and Australian Agency Corporation Limited—Sale, 1; bales offered, 119; bales sold, 109. H. Cunningham and Co.—Sale 1; bales offered, 680, bales sold, 640. Guthrie, Bullock, and Co.—

Sale, 1; bales offered, 136; bales sold, 136. Total sales, 5; total bales offered, 2,976; total bales sold, 2,799. Summary of sales during the season: October 1, 1870, to March 28, 1871: R. Goldsbrough and Co.—Sales, 16; bales catalogued, 33,997; bales sold, 24,933. London and Australian Agency Corporation Limited—Sales, 9; bales catalogued, 8,043; bales sold, 3,669. H. Cunningham and Co.—Sales, 12; bales catalogued, 16,219; bales sold, 11,577. C. J. Dennys and

Co., Geelong—Sales, 6; bales catalogued, 4,057; bales sold, 2,586. George Synnot, Geelong—Sales, 6; bales catalogued, 3,431; bales sold, 2,328. Guthrie, Ballock, and Co., Geelong—Sales, 7; bales catalogued, 991; bales sold, 884. Bowes and Buckland, Geelong—Sales, 5; bales catalogued, 587; bales sold, 334. Total sales, 61; total bales catalogued, 67,325; total bales sold, 46,311.—GOLDSBROUGH AND CO.'S Report.

REVIEW OF THE CORN TRADE DURING THE PAST MONTH.

The weather, after having become warm and growing at the close of April, exhibited a lower temperature on the commencement of May, with frequent and smart frosts, and an occasional outbreak of heat, with thunder, and even snowstorm, till the last week was reached, with a summer-like and sultry period, followed by light genial rains. Vegetation, which previously had been checked, then suddenly revived, and a growth was made in a few days that previously seemed impossible. The grass and all cereals have felt the reviving influence, not even excepting wheat, though its patchiness and thinness in many localities are beyond reparation. Till the welcome weather came, the prices of wheat were again hardening through shortened deliveries. Though our April review noted an increase of 57,181 qrs. in four weeks, the last three weeks are reduced 57,716 qrs. If, therefore, these later deliveries afford any criterion of the state of stocks in farmers' hands, as the quantities of foreign have also very materially lessened, we may, in spite of the present weather, again see rising markets, more especially as the insurrection in Paris is now thoroughly subdued, and business is likely gradually to resume its natural course. The season, too, is yet backward; and we have had so many fluctuations, they may again prevail, and should a bad blooming-time be experienced, prospects would be materially affected. The changes have very much cut the fruit already, only gooseberries and currants having a fair promise. The pears, which appeared to set well in many places, show the young fruit full of maggots, while the foliage generally abounds this season with blight. With regard to imports prices in the Baltic are too high, and stocks too low, for large expectations, the markets of Belgium and Holland, as more in want than ourselves, paying better, while a drought in Spain shows that country is more likely to go short than make free exports. The American markets, too, have been lately rising, and we seem principally to depend on Russia to fill up the void which our immense consumption annually absorbs. Low prices, therefore, appear still out of question. The following rates have recently been paid at the places named. Native wheat at Bordeaux 62s. to 65s.; low Danube wheat at Marseilles 46s., Azoff 50s., Berdianski 53s.; Danish wheat at Antwerp 66s., English red 65s., red foreign wheat at Brussels 65s., white Zealand 68s. to 60s.; Mecklenburg wheat at Hambro' 57s., Silesian 61s., Pomeranian red wheat 63s., cost, freight, and insurance; the best high-mixed at Danzig 68s. 6d., cost, freight, and insurance, and at Königsberg the same; red wheat at Copenhagen 64s., cost, freight, and insurance; Marianopoli at Genoa 56s.; wheat at San Francisco 56s., free on board, at Adelaide 46s., at Philadelphia red 50s. per 480lbs., white 64s.; old spring wheat, No. 2, at New York, 46s. 6d. per 480lbs., new No. 1 50s. per 480lbs., white Michigan 52s. 6d. per 480lbs.

The first Monday in Mark Lane opened on a small

supply of English wheat, but the foreign arrivals were good. With an unusually small show of samples from Essex and Kent, factors resolved not to take less money, but the sales were very limited and slow. The higher qualities of foreign were also held at unaltered rates; but red sorts were down 1s. per qr., with, however, some improvement in business at the decline. Though but few cargoes afloat were reported, sales could only be made at a reduction of 1s. per qr. The dull accounts from London were not without their influence in the country. In many places farmers refused to accept lower prices, and consequently scarcely anything was done. Others accepted a decline of 1s. per qr. Among these were Ipswich, Rotherham, Sleaford, St. Ives, &c.; but a large business was transacted at Birmingham, at an advance of 1s. per qr., and Newark also was against buyers. Liverpool, on Tuesday, was firm for red qualities, but 2d. per cental lower for white. On Friday the market recovered 1d. to 2d. per cental, and several places on Saturday were reported 1s. per qr. higher. Edinburgh market was at first depressed, and noted a reduction of 2s. to 8s. per qr.; but 1s. was subsequently recovered. Glasgow gave way only 8d. to 6d. per boll. The Irish markets were in calm, Dublin being unaltered, and Belfast rather lower.

On the second Monday there was another very short English supply, but the foreign arrivals were increased. The show of samples from the near counties was very limited; and as the last country markets were nearly all dearer, factors determined to hold for 1s. per qr. more; this, however, was only occasionally paid, and much of the bulk was therefore held over to Wednesday, when the advance was submitted to, and all cleared. The foreign trade was on a small scale, holders generally insisting on more money, which buyers generally resisted, though in some instances it was given on fine American red. With few cargoes afloat on offer prices remained without change. The country trade was more decidedly improved than London. The dullest markets were firm, more were fully 1s. per qr. dearer; viz., Boston, Hull, Leeds, Gainsboro' Maidstone, Manchester, Newark, Newcastle, Spilsby, &c., while 1s. to 2s. more was paid at Birmingham, Melton Mowbray, and several other towns; Liverpool was 2d. dearer per cental on Tuesday, and firm on Friday. At Edinburgh the improvement was 1s. per qr., but Glasgow only experienced a firm trade. Dublin was fully as dear for native and foreign qualities, and Belfast noted a small advance.

On the third Monday the English supply of wheat was the shortest since last harvest, and the foreign arrivals were reduced by one half, this coming chiefly from Odessa. On the Kentish stands this morning there was scarcely anything, and those of Essex were very poorly furnished in quantity, though the quality and condition was fine, after a dry week. With the firmness manifest

in the country, and a large quantity exported, nearly equalling the receipts from the Black Sea, factors fully expected to make another 1s. over the advance of the previous week. Some sales we heard were actually made at this improvement, but one Essex factor was offering his runs at precisely the same prices as on the previous Monday without meeting customers, and so all we could report was a firmness in the trade. The cause of this indisposition to buy on the part of millers was found in the low relative price of flour, which involved a positive loss on its manufacture. In foreign business was steady at the previous currency. Cargoes afloat were 6d. to 1s. dearer. There was a difference this week in the country markets, some being only firm and slightly in favour of sellers, others were 1s. higher, as Hull, Leeds, Newark, Birmingham, Maidstone, Manchester, Sleaford, Melton Mowbray, Market Harborough, Alford, Spilsby, Lynn, Thirsk, Barnsley, Reading, Bury St. Edmund's, and Gloucester; while Stockton, Louth, and Bristol noted an advance of 1s. to 2s. per qr. Liverpool was 2d. dearer per cental on Tuesday, and unaltered on Friday. Edinburgh was up 1s., but not Glasgow. Dublin only exhibited a firmness in the wheat trade.

The fourth Monday opened on a very short English supply, with moderate arrivals from abroad. Scarcely any samples appeared on the Kentish stands, and very few on those of Essex; so factors held for one shilling more, though there was little chance of getting it then, from the thinness of the attendance. The foreign trade was very firm, the Baltic markets having advanced 2s. per qr., with a free export, but the demand here was limited, with prices much the same. Floating cargoes were fully as dear. Liverpool gave way 1d. to 2d. per cental on Tuesday, and Irish wheat at Dublin was firm.

The imports into London for four weeks were 14,856 qrs. English, 82,674 qrs. foreign wheat, against 21,775 qrs. English, 76,875 qrs. foreign for the same period in 1870. The imports into the Kingdom for four weeks ending 18th May were 2,453,195 cwt. wheat, and 320,306 cwt. flour, against 2,011,562 cwt. wheat, and 374,629 cwt. flour for the same period last year. The London exports for four weeks were 12,128 qrs. wheat, and 8,414 cwt. flour. The London averages commenced at 60s. 10d., and closed at 61s. 1d., those for the whole country began at 58s. 11d., and ended at 58s. 7d. per qr.

The flour trade during the month has varied very little. The first Monday showed a slight decline, as the consequence of improved weather; but on the third this was fully recovered, leaving Norfolks worth about 39s. to 40s. It was thought from the constant upward tendency of the wheat trade town millers would raise the price of their best quality beyond 50s.; but the fourth Monday being remarkably sunny and fine, prevented the movement, though the general state of our own markets, as well as of those on the Continent, leaves the impression that it will ere long take place—extra State at New York was worth 25s. 6d. free on board: the same quality here about 29s. per brl. The imports into London for four weeks were 82,789 sacks English, and 5,546 sacks 39,940 brls. foreign, against 88,610 sacks English, and 2,777 sacks 30,059 brls. foreign in 1870.

The supplies of Indian corn, which by this time were expected to be large, turning out very limited, prices after a decline of about 1s. 6d. from their highest, have since been rather hardening; but being held at 35s. to 36s., this grain is brought into competition with low barley, beans, and peas, and therefore is not in such demand, as cheaper rates would ensure. After the repairs of the break in the Erie Canal we may get free arrivals and lower prices. The imports in four weeks were 25,071 qrs., against 5,466 qrs. in 1870.

The supplies of English barley have kept on dwindling down; but there have been fair arrivals of foreign. So little was doing in malting sorts, that rates, though maintained from the present scarcity, are not to be relied on, and the value of grinding has been rather shaken from the sudden decline in oats; but as harvest may be late, it is not likely there will be much, if any reduction from present values, good 50lbs. grinding being worth 29s. per qr. The imports into London for four weeks were 1,799 qrs. English, 42,726 qrs. foreign, against 2,371 qrs. British, 25,602 qrs. foreign for the same period in 1870.

The oat supply for the last four weeks have consisted exclusively of a large foreign importation, and a few thousand quarters of home growth, not one parcel appearing from Scotland or Ireland. On the first two Mondays, with good arrivals, each market gave way 6d. per qr., and on the third and largest import there was a further reduction of 1s., many from Riga having got in which were not expected so early, so we have a decline for the month of about 2s. per quarter, the last market showing some symptoms of reaction, there being very light stocks in store. Should any falling-off occur, we may again see a rally in this grain, which, with the exhaustion of our own poor crop, seems very probable, good corn being just now procurable at 22s. 6d. per qr., though great weight might yet bring 26s. to 28s. The imports into London for four weeks were 3,039 qrs. English, 190,215 qrs. foreign; against 3,598 qrs. English, 189,026 qrs. foreign, in 1870. The London exports this month were 9,611 qrs.

The malt trade has been quiet during the month, brewers being well in stock; but prices have been firm for good qualities, there having been 8,334 qrs. exported.

The supplies of English beans have held out quite as well as expected, though rather short, there being fair arrivals from abroad; and as some Egyptian may be expected in shortly of the new crop, prices may be kept very steady to the season's close. The imports for four weeks into London were 1,678 qrs. English, 7,778 qrs. foreign; against 1,607 qrs. English, 3,539 qrs. foreign, in 1870.

Farmers, if any of their peas were left, seem to have used their crops at home, for very little of them have come to London, and the foreign arrivals in feeding sorts have only been moderate. Maples have still kept at a fancy range, say 46s., boilers 43s. to 44s., grey 40s. to 42s., foreign feeding white 39s. to 41s. Very few boilers being now wanted, we need not expect any stir in this article. The London imports for four weeks were 396 qrs. English, 8,759 qrs. foreign; against 777 qrs. English, 2,557 qrs. foreign, in 1870.

Linseed, with small supplies, has been very firm, as well as cakes.

In cloverseed and trefoil nothing has been doing.

COMPARATIVE AVERAGES.

Years.	WHEAT.			BARLEY.			OATS.		
	Qrs.	s.	d.	Qrs.	s.	d.	Qrs.	s.	d.
1867...	49,363	...	65 3	2,500	...	37 10	3,973	...	26 3
1868...	33,255	...	73 10	1,866	...	43 1	2,633	...	29 9
1869...	62,917	...	45 2	634	...	37 7	2,374	...	27 1
1870...	69,377	...	45 3	2,352	...	32 6	3,301	...	22 0
1871...	52,833	...	59 10	2,477	...	37 7	2,043	...	27 11

AVERAGES

FOR THE PAST SIX WEEKS:				Wheat.		Barley.		Oats.	
				s.	d.	s.	d.	s.	d.
April 15, 1871.....				57	6	36	6	25	5
April 22, 1871.....				58	11	37	3	37	9
April 29, 1871.....				59	7	36	9	37	9
May 6, 1871.....				58	11	37	3	36	10
May 13, 1871.....				58	7	37	10	36	11
May 20, 1871.....				58	10	37	7	37	11
Aggregate of the above ...				58	9	37	2	37	3
The same week in 1870.....				45	3	33	5	22	0

		Shillings per Quarter.
WHEAT, new, Essex and Kent, white.....	red.....	57 to 63
Norfolk, Lincoln, and Yorksh., red.....		51 to 58
BARLEY.....	31 to 34.....	51 to 59
Grinding.....	31.....	36 to 43
MALT, Essex, Norfolk, and Suffolk.....	Distilling.....	85 to 99
Kingsland, Ware, and town-made.....		60 to 67
Brown.....		60 to 67
RYE.....		49 to 56
DATE.....	feed.....	36 to 48
Scotch, feed.....	00.....	00 to 00
Irish, feed, white 23.....	26.....	00 to 28
Ditto, black.....	30.....	26 to 34
BEANS, Masagan.....	37.....	37 to 39
Harrow.....	40.....	44 to 45
PEAS, white, boilers.....	38.....	42 to 46
FLOUR, per sack of 280lbs.,	Best town households.....	47 to 50
Best country households.....		40 to 43
Norfolk and Suffolk.....		38 to 40

		Shillings per Quarter.	
WHEAT, Danish, mixed 57 to 59.....	extra.....	60 to 64
Königsberg	59	extra.....	60
Bistock	59	fine	60
Silesian, red.....	63	white	59
Tomars, Polkberg, and Ustermark.....	red.....	65	59
Russian, hard 44 to 45.....	St. Petersburg and Riga 47	59	59
Danish and Holstein.....	red 53.....	American 53	59
Chilian, white 61.....	Californian 53.....	Australian 53	59
BARLEY, grinding 27 to 33.....	distilling and malting 35	36	59
OATS, Dutch, brewing and Poland 23 to 25.....	feed 21	24	59
Danish and Swedish, feed 23 to 25.....	Strand.....	22	59
Canada 21 to 22, Riga 23 to 23, Arab 23 to 23, Pabg.....	23	23	59
TARES, Spring, per qr.....	small 43	50.....	large 00
BEANS, Friesland and Holstein	47	48	59
Königsberg	38 to 43.....	Egyptian	34
PEAS, feeding and mangle.....	37	40.....	fine bodied 38
INDIAN CORN, white.....	33	yellow	32
FLOUR, per sack, French.....	00.....	Spanish, p. sack 00	00
American per brl.....	36	extra and fine 36	36

Wheat	53,883	qrs.	58s. 10d.
Barley	2,467	"	37s. 7d.
Oats	2,042	"	37s. 11d.

Price.	April 15.	April 22.	April 29.	May 6.	May 13.	May 20.
59s. 7d.
59s. 11d.
59s. 10d.
58s. 7d.
57s. 6d.

Mustard, per bushel, brown 12s. to 14s., white	9s. to 11s.
Canary, per qr.	56s. 60s.
Cloverseed, new red	62s. 66s.
Coriander, per cwt.	21s. 23s.
Fares, winter, new, per bushel	7s. 8s.
Trefoil, new	21s. 26s.
Rye-grass, per qr.	32s. 34s.
Linseed, per qr., sowing 66s. to 68s., crushing	58s. 62s.
Linseed Cakes, per ton	£11 0s. to £11 10s.
Rapeseed, per qr.	80s. 84s.
Rape Cakes, per ton	26 0s. 0d. to 28 12s. 6d.

Coriander, per cwt.	21s. to 22s.
Carraway, " new	32s. 6s.
Cloves, small 40s. to 52s.	38s. 6s.
Hempseed, small 41s. to 42s. per qr. Dutch	45s. 46s.
Trefoil	21s. 23s.
Rye-grass, per qr.	37s. 34s.
Linseed, per qr. Baltic 59s. to 62s., Bombay	62s. 63s.
Linseed Cake, per ton £11 0s. 0d.	to 21l 10s.
Rape Cake, per ton £6 0s. to	£6 12s. 6d.
Rapeseed, Dutch.	76s. 80s.

LONDON, MONDAY, May 29.—The business of our market closed last week with prices exceedingly firm, at a slight advance on our previous quotations. To-day being a general holiday no business is transacted. During the past week our plantations have assumed a far more unfavourable aspect.

Mid and East Kents	£3	5	.....	£3	15	.....	£	7	7
Weald of Kent.....	2	5	.....	3	0	.....	3	15	
Sussex	2	0	.....	2	10	.....	3	10	
Farnham and Country ...	3	15	.....	4	15	.....	5	12	
Olds	1	0	.....	1	5	.....	1	15	

CANTERBURY HOP MARKET, (Saturday last.)—A brisk demand has prevailed this week, and a much larger business might have been done but holders have demanded a considerable advance on last week's prices; the continued unfavourable reports of the growing crop and the large increase of fly and lice again to-day, is the cause of the continued upward movement.

WORCESTER HOP MARKET, (Saturday last).—Planters still reported unfavourably of the bine, and offered very few samples, which chiefly restricted business. Good Hops demand and make fully late rates. The general tenor of the reports speak of slack and weak bine, and where the bine is most forward it is prevalent with deposit.

LONDON, MONDAY, May 29.—During the past week the arrivals coastwise have not been large, but still very heavy by rail, with large stocks left from former arrivals, and heavy supplies of new potatoes causes a dull trade at following quotations.

Yorkshire Flukes	80s. to	90s.
Do. Regents	50s. to	65s.
Lincolnshire do.	45s. to	60s.
Dunbar and East Lothian do.	60s. to	70s.
Perth, Forfar, and Fife do.	40s. to	45s.
Do. do. do. Rocks	30s. to	40s.

LONDON, MONDAY, May 29.—The markets are well supplied. Trade is steady at our currencies. Last week's London imports comprised 10,015 boxes from Lisbon, 222 from Gibraltar, and 49 baskets from Oporto.

Flukes (old).....	70s. to 90s. per ton.
Regents.....	40s. to 60s. "
Rocks.....	40s. to 50s. "
Kidneys (new)	12s. to 16s. per cwt.
Round.....	8s. to 14s. "

BUTTER, per cwt.:	s.	d.	CHESSE, per cwt.:	s.	d.
Dorset.....	154	186	Cashmere.....	64	64
Friesland.....	100	104	Dia Gloucester.....	78	78
Jersey.....	80	104	Cheddar.....	78	78
Fazze per doz.....	13	15	American.....	60	73
BACON, per cwt.:			HAMS, York:		
Wiltshire.....	64	68	Cumberland.....	84	96
Irish, green, f.o.b. 63	63	68	Irish.....	74	98

LONDON CHEESE MARKET, (Thursday last).—The Cheese trade has continued rather slow since our last report. For really fine, firm, handsome Cheese—Cheshire and Cheddar—there has been some little inquiry, and also for low-priced useful Cheese. This latter want has been met chiefly by American, at about 38s. to 48s. The weather has become finer and more genial, and may, it is to be hoped, help to promote a livelier trade. At the same time, the prospect of a continued good supply of grass tends to give buyers low views of coming prices, and to make them accordingly very cautious and sparing in their present operations. American Cheese move rather slowly at a wide range of prices—say from about 28s. to 70s. The arrivals reported since last week are 13,113 boxes.—CORDEROY & Co.

GLASGOW CHEESE MARKET (Wednesday last).—An ordinary supply of cheese, which met with a fair demand. Of new there were a good many different cots, about one-

third of which were sold at prices ranging from 48s. to 52s. Cheddar, first class, 53s. to 70s., fine, 55s. to 62s., late (secondary) 54s. to 58s., Daulops, fine, 59s. to 64s., late (secondary) 48s. to 54s., skim, 32s. to 34s. per cwt.

COVENT GARDEN MARKET.

LONDON, FRIDAY, May 26.

The attendance of buyers has this week been a little better, the supply being about equal to the demand, at former prices. Continental supplies have been received very irregularly. Home-grown outdoor produce is coming in in very fair condition, including very good samples of new Peas. Large consignments of very good new Potatoes are to hand from Guernsey, at from 10s. to 14s. per cwt. Large stocks of old Potatoes are still on hand.

FRUIT.

	s. d.	s. d.	s. d.
Apples, W. down	1 5	1 5	1 5
Oranges, W. down	1 5	1 5	1 5
Lemons, W. down	1 5	1 5	1 5
Peonies, W. down	1 5	1 5	1 5
...

CHICORY.

LONDON, SATURDAY, May 27.

The demand has been inactive, at the rates previously current.

DELIVERABLE FROM WAREHOUSES IN BASE, ENGLAND OR DUTY.
 Harlingen ... 210 5 to 211 10 | Antwerp ... 2 0 0 to 20 0
 Bruges ... 11 10 | 12 10 | Hamburg ... 0 0 0

ENGLISH WOOL MARKET.

LONDON, May 27.—Although rather less activity has been noticed in the Wool market, the tone has still continued healthy, and very full currencies have been realized.

CURRENT PRICES OF ENGLISH WOOL.

	s. d.	s. d.
Flannels—Southdown hogs	1 24 to 1 4	
Half-bred ditto	1 44 to 1 54	
Kent fleeces	1 44 to 1 54	
Southdown ewes and wethers	1 1 to 1 14	
Leicester ditto	1 2 to 1 4	
Scots—Clothing, pinklock	1 4 to 1 44	
Prims	1 24 to 1 3	
Chooles	1 1 to 1 2	
Super	1 0 to 1 04	
Combing, wether mak	1 4 to 1 44	
Pinklock	1 2 to 1 3	
Common	1 0 to 1 1	
Hog matching	1 5 to 1 54	
Pinklock matching	1 2 to 1 3	
Super ditto	1 0 to 1 1	

BRADFORD WOOL MARKET, (Thursday last.)—The market is again quieter, and there is decidedly less disposition to buy. Staplers have very little to offer, but they find that consumers are satiated for the present, and will not look at it. The transactions that have taken place have been at about late quotations, and some staplers are even willing to yield a fraction on certain unpopular descriptions, to clear out their stocks for the new supply. A little new Irish wool has already come to market, and this has been taken up by the dealers at the full prices asked, but it is expected that when the supply is larger they will not be so ready to pay the extreme demand of the farmers. In our own market, at any rate, consumers appear generally inclined to work at their present heavy stocks until the forthcoming clip shall have had its effect on the current range of prices.—*Bradford Observer.*

HAY MARKETS.

LONDON, SATURDAY, May 27.

There were moderate supplies of hay and clover on offer at the market to-day. The demand was not active, but prices ruled firm. Prime meadow hay, 12s. to 140s.; inferior, 100s. to 120s.; prime first-cut clover, 12s. to 14s.; inferior ditto, 110s. to 12s.; prime second-cut clover, 12s. to 14s.; inferior ditto, 110s. to 12s.; straw, 8s. to 4s. per load.

BICESTER, (Friday last.)—Hay, 25 to 28 10s.; Straw, 2 10s. to 23 per ton.

BIRMINGHAM, Monday, May 28.—Hay, 120s. to 130s. 4 per ton. Straw, 3s. 6d. to 4s. per cwt.

DERBY, (Tuesday last.)—Hay, 28 10s. to 27 5s.; Straw 23 10s. to 24 per ton.

WOLVERHAMPTON, (Wednesday last.)—Hay, new, 12s. to 13s.; ditto, old, 12s. to 13s.; Straw, 7s. 6d. to 7s.

HIDE AND SKIN MARKETS.

LONDON, SATURDAY, May 27.

	s. d.	s. d.
Market hides	2 10 to 2 5	
44 to 46 lbs	2 5 to 2 4	
46 to 48 lbs	2 4 to 2 3	
48 to 50 lbs	2 3 to 2 2	
50 to 52 lbs	2 2 to 2 1	
52 to 54 lbs	2 1 to 2 0	
54 to 56 lbs	2 0 to 1 10	
56 to 58 lbs	1 10 to 1 9	
58 to 60 lbs	1 9 to 1 8	
60 to 62 lbs	1 8 to 1 7	
62 to 64 lbs	1 7 to 1 6	
64 to 66 lbs	1 6 to 1 5	
66 to 68 lbs	1 5 to 1 4	
68 to 70 lbs	1 4 to 1 3	
70 to 72 lbs	1 3 to 1 2	
72 to 74 lbs	1 2 to 1 1	
74 to 76 lbs	1 1 to 1 0	
76 to 78 lbs	1 0 to 9	
78 to 80 lbs	9 to 8	
80 to 82 lbs	8 to 7	
82 to 84 lbs	7 to 6	
84 to 86 lbs	6 to 5	
86 to 88 lbs	5 to 4	
88 to 90 lbs	4 to 3	
90 to 92 lbs	3 to 2	
92 to 94 lbs	2 to 1	
94 to 96 lbs	1 to 0	
96 to 98 lbs	0 to 0	
98 to 100 lbs	0 to 0	

BARK AND TANNING MATERIALS.

LONDON, SATURDAY, May 27.

	s. d.	s. d.
English, per load of 40 cwt. delivered in London	2 10 to 2 5	
Coppice	2 5 to 2 4	
Batch, per ton	2 4 to 2 3	
Hammer	2 3 to 2 2	
Antwerp Free	2 2 to 2 1	
Do. Coppice	2 1 to 2 0	
French	2 0 to 1 10	
Wineon Chopped	1 10 to 1 9	
Do. Ground	1 9 to 1 8	
Do. Long	1 8 to 1 7	

OIL MARKET.

	s. d.	s. d.
ON	20 00 to 20 00	
1st	20 00 to 20 00	
2nd	20 00 to 20 00	
3rd	20 00 to 20 00	
4th	20 00 to 20 00	
5th	20 00 to 20 00	
6th	20 00 to 20 00	
7th	20 00 to 20 00	
8th	20 00 to 20 00	
9th	20 00 to 20 00	
10th	20 00 to 20 00	
11th	20 00 to 20 00	
12th	20 00 to 20 00	
13th	20 00 to 20 00	
14th	20 00 to 20 00	
15th	20 00 to 20 00	
16th	20 00 to 20 00	
17th	20 00 to 20 00	
18th	20 00 to 20 00	
19th	20 00 to 20 00	
20th	20 00 to 20 00	

MANURES.

Pure Dissolved Bones, 47. Concentrated Ammoniacal Manure 41s.
 Bone Turnip Manure, 24 5s. Superphosphate of Lime, 25 5s.
 Nitrophosphate, 24 5s. Potato Manure, 27 10s. Own Manure, 27 10s.
 Mangold Manure, 24 5s. Urals, 27 10s. Hop, 24 5s. Grass, 24 5s.
 Soluble or Fixed Guano, 21s. Government Fertilizer Guano, 21s. 10s.
 Strate of Soda, 21 10s. to 21 10s. Gypsum, 21 10s.
 Sulphate of Ammonia, 21 10s. to 21 10s. (all per ton).

M. FURBER, London Manure Company,

119, Fenchurch Street, E.C.

Guano, Peruvian 21 10	0 00	20 00	0 00	20 00	27 10
Bone Ash	17 0	0 00	0 00	0 00	0 00
Phosphate of Lime	1 8	0 12	1 8	0 12	0 12
Linseed Cake, per ton	0 0	0 0	0 0	0 0	0 0
Amer. thin, per 11	0 0	0 0	0 0	0 0	0 0
Ised Bomby, p. gr. 2	0 0	0 0	0 0	0 0	0 0
Washed, Guano 2	0 0	0 0	0 0	0 0	0 0

SAMUEL DOWNES AND CO., General Brokers,
 No. 7, The Albany, Liverpool.

Freemore's Cereal Manure for Cereals	per ton 25 0 0
Mangold Manure	" 25 0 0
Freemore's Turf Manure	" 25 0 0
Freemore's Superphosphate of Lime	" 25 0 0

Agricultural Chemical Works, Southwark, S.E.

END OF VOLUME LXIX.

